YAMAHA

TT-R125EY
TT-R125LEY

SERVICE MANUAL

LIT-11626-22-26

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EC010000

TT-R125EY/TT-R125LEY
SERVICE MANUAL
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INTRODUCTION

Congratulations on your purchase of a Yamaha TT-R125E/TT-R125LE. This model is the culmination of Yamaha's vast experience in the production of pacesetting racing machines. It represents the highest grade of craftsmanship and reliability that have made Yamaha a leader.

This manual explains operation, inspection, basic maintenance and tuning of your machine. If you have any questions about this manual or your machine, please contact your Yamaha dealer.

The design and manufacture of this Yamaha machine fully comply with the emissions standards for clean air applicable at the date of manufacture. Yamaha has met these standards without reducing the performance or economy of operation of the machine.To maintain these high standards, it is important that you and your Yamaha dealer pay close attention to the recommended maintenance schedules and operating instructions contained within this manual.

TIP

Yamaha continually seeks advancements in product design and quality. Therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your machine and this manual. If you have any questions concerning this manual, please consult your Yamaha dealer.

⚠ WARNING

- **READ THIS MANUAL CAREFULLY FOR INSTRUCTIONS ON HOW TO PROPERLY OPERATE THIS MACHINE.**
- **ADULT INSTRUCTION AND SUPERVISION ARE REQUIRED.**
- **WEIGHT OF THE RIDER SHOULD NOT EXCEED 68 kg (150 lb). (TT-R125E ONLY)**
- **ALWAYS WEAR A HELMET AND SUITABLE PROTECTIVE CLOTHING WHEN RIDING.**
- **DO NOT TOUCH ANY MOVING PARTS OR HEATED AREAS.**
- **ALWAYS PERFORM PRE-OPERATION CHECKS. REFER TO PAGE 3-4.**
- **THIS MACHINE IS DESIGNED TO CARRY THE OPERATOR ONLY.**
  NO PASSENGERS.
- **THIS MACHINE IS DESIGNED OFF-ROAD USE ONLY.**
  IT IS NOT SUITABLE FOR ON-ROAD USE.

IMPORTANT MANUAL INFORMATION

⚠

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ WARNING

A WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE

A NOTICE indicates special precautions that must be taken to avoid damage to the vehicle or other property.

TIP

A TIP provides key information to make procedures easier or clearer.

YAMAHA MOTOR CORPORATION, U.S.A.
OFF-ROAD MOTORCYCLE LIMITED WARRANTY

YAMAHA MOTOR CORPORATION, U.S.A. OFF-ROAD MOTORCYCLE LIMITED WARRANTY

Yamaha Motor Corporation, USA hereby warrants that new Yamaha off-road motorcycles purchased from an authorized Yamaha motorcycle dealer in the continental United States will be free from defects in material and workmanship for the period of time stated herein, subject to certain stated limitations. Covered off-road motorcycles are those units certified by Yamaha to EPA noise regulations and come equipped from the factory with USDA-FS approved spark arresters.

THE PERIOD OF WARRANTY for Yamaha off-road motorcycles shall be ninety (90) days from the date of purchase, with no mileage limitation.

PRODUCT EXCLUDED FROM WARRANTY include those used for non-Yamaha-authorized renting, leasing, or other commercial purposes.

DURING THE PERIOD OF WARRANTY any authorized Yamaha motorcycle dealer will free of charge, repair or replace, at Yamaha' s option, any part adjudged defective by Yamaha due to faulty workmanship or material from the factory. Parts used in warranty repairs will be warranted for the balance of the product's warranty period. All parts replace under warranty become property of Yamaha Motor Corporation, USA.

GENERAL EXCLUSIONS from this warranty shall include any failures caused by:

a. Competition or racing use.
b. Installation of parts or accessories that are not qualitatively equivalent to genuine Yamaha parts.
c. Abnormal strain, neglect, or abuse.
d. Lack of proper maintenance.
e. Accident or collision damage.
f. Modification to original parts.
g. Damage due to improper transportation.

SPECIFIC EXCLUSIONS from this warranty shall include parts replaced due to normal wear or routine maintenance.

THE CUSTOMER'S RESPONSIBILITY under this warranty shall be to:

1. Operate and maintain the motorcycle as specified in the appropriate Owner's Manual, and
2. Give notice to an authorized Yamaha motorcycle dealer of any and all apparent defects within ten (10) days after discovery, and make the motorcycle available at that time for inspection and repairs at such dealer's place of business.

WARRANTY TRANSFER: To transfer the warranty from the original purchaser to any subsequent purchaser(s), it is imperative that the motorcycle be inspected and registered for warranty by an authorized Yamaha motorcycle dealer. In order for this warranty to remain in effect, this inspection and registration must take place within ten (10) days after transfer of ownership to the subsequent purchaser. A reasonable dealer imposed fee may be charged for this inspection.

EMISSION CONTROL SYSTEM WARRANTY
Yamaha Motor Corporation, USA also warrants to the ultimate purchaser and each subsequent purchaser of each 2006 and later model Yamaha motorcycle covered by this warranty that the vehicle is designed, built, and equipped so as to conform at the time of sale with all U.S. emissions standards applicable at the time of manufacture and that it is free from defects in materials and workmanship which would cause it not to meet these standards within the period listed immediately below. Failures other than those resulting from defects in material or workmanship which arise solely as a result of owner abuse and/or lack of proper maintenance are not covered by this warranty.

All Off-Road Models
Thirty (30) months from the original purchase date.

YAMAHA MOTOR CORPORATION, USA MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR APARTICULAR PURPOSE WHICH EXCEED THE OBLIGATIONS AND TIME LIMITS STATED IN THIS WARRANTY ARE HEREBY DISCLAIMED BY YAMAHA MOTOR CORPORATION, USA AND EXCLUDED FRON THIS WARRANTY.

SOME STATES SO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. ALSO EXCLUDED FROM THIS WARRANTY ARE ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING LOSS OF USE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER WHICH VARY FROM STATE TO STATE.

YAMAHA MOTOR CORPORATION, USA
Post Office Box 6555
Cypress, California 90630

WARRANTY QUESTIONS AND ANSWERS

Q. What costs are my responsibility during the warranty period?
A. The customer's responsibility includes all costs of normal maintenance services, no-warranty repairs, accident and collision damages, and oil, oil filters, air filters, spark plugs and brake shoes.

Q. What are some examples of abnormal strain, neglect or abuse?
A. These terms are general and overlap each other in areas. Specific examples include: Running the machine out of oil, sustained high-rpm, full-throttle, operating the machine with a broken or damaged part which causes another part to fail, damage or failure due to improper or careless transportation and or tie down. If you have any specific questions on operation or maintenance, please contact your delaer for advice.

Q. Does the warranty cover incidental costs such as towing or transportation due to a failure?
A. No. The warranty is limited to repair of the machine itself.

Q. May I perform any or all of the recommended maintenance shown in the Owner's Manual instead of having the dealer do them?
A. Yes, if you are a qualified mechanic and follow the procedures specified in the Owner's and Service Manual. We do recommend, however, that items requiring special tools or equipment be done by Yamaha Motorcycle dealer.

Q. Will the warranty be void or cancelled if I do not operate or maintain my new motorcycle exactly as specified in the Owner's Manual?
A. No. The warranty on a new motorcycle cannot be voided or cancelled **However, if a particular failure is caused by operation or maintenance other than as shown in the Owner's Manual, that failure may not be covered under warranty**.

Q. What responsibility does my dealer have under this warranty?
A. Each Yamaha Motorcycle dealer is expected to:
   1. Completely set up every new machine before sale.
   2. Explain the operation, maintenance, and warranty requirements to your satisfaction at the time of sale, and upon your request at any later date.
   3. Each Yamaha Motorcycle dealer is held responsible for his setup, service and warranty repair work.

Q. Is the warranty transferable to second owner's?
A. Yes. The remainder of the existing warranty can be transferred upon request. The unit has to be inspected and re-registered by an authorized Yamaha Motorcycle dealer for the policy to remain effective.

CUSTOMER SERVICE

If your machine requires warranty service, you must take it to any authorized Yamaha Motorcycle dealer within the continental United States. Be sure to bring your warrant registration card or other valid proof of the original date of purchase. If a question or problem arises regarding warranty, first contact the owner of the dealership. Since all warranty matters are handled at the dealer level, this person is in the best position to help you. If you are still not satisfied and require additional assistance, please write:

YAMAHA MOTOR COPORATION U.S.A.
CUSTOMER RELATIONS DEPARTMENT
P.O. Box 6555
Cypress, California 90630

When contacting Yamaha Motor Corporation, U.S.A. don't forget to include any important information such as names, addresses, model, V.I.N. (frame number), dates, and receipts.

CHANGE OF ADDRESS

The federal government requires each manufacturer of a motor vehicle to maintain a complete, up-to-date list of all first purchasers against the possibility of a safety-related defect and recall. This list in compiled from the purchase registrations sent to Yamaha Motor Corporation, U.S.A. by the selling dealer at the time of your purchase.

If you should move after you have purchase your new motorcycle, please advise us of your new address by sending a postcard listing your motorcycle model name, V.I.N. (frame number), dealer number (or dealer's name) as it is shown on your warranty card, your name and new mailing address. Mail to:

YAMAHA MOTOR CORPORATION, U.S.A.
P.O. Box 6555
Cypress, California 90630
Attention: Warranty Department

This will ensure that Yamaha Motor Corporation, U.S.A. has an up-to-date registration record in accordance with federal law.

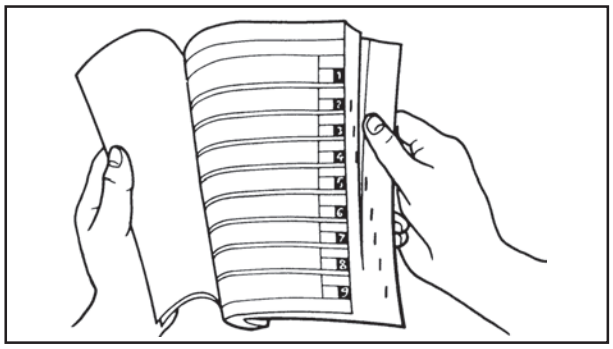
⚠ SAFETY INFORMATION

THIS MACHINE IS DESIGNED FOR OFF-ROAD USE ONLY. It is illegal for this machine to be operated on any public street, road, or highway. Off-road use on public lands may be illegal. Please check local regulations before riding.

⚠ SAFETY INFORMATION

1. **THIS MACHINE IS DESIGNED TO BE RIDDEN BY THE OPERATOR ONLY. Do not carry passengers on this machine.**
2. **ALWAYS WEAR PROTECTIVE APPAREL. When operating this machine, always wear an approved helmet with goggles or a face shield. Also wear heavy boots, gloves, and protective clothing. Always wear proper fitting clothing that will not be caught in any of the moving parts or controls of the machine.**
3. **ALWAYS MAINTAIN YOUR MACHINE IN PROPER WORKING ORDER. For safety and reliability, the machine must be properly maintained. Always perform the pre-operation checks indicated in this manual. Correcting a mechanical problem before you ride may prevent an accident.**
4. **GASOLINE IS HIGHLY FLAMMABLE. Always turn off the engine while refueling. Take care to not spill any gasoline on the engine or exhaust system. Never refuel in the vicinity of an open flame, or while smoking.**
5. **GASOLINE CAN CAUSE INJURY. If you should swallow some gasoline, inhale excess gasoline vapors, or allow any gasoline to get into your eyes, contact a doctor immediately. If any gasoline spills onto your skin or clothing, immediately wash skin areas with soap and water, and change your chothes.**

6. **ONLY OPERATE THE MACHINE IN AN AREA WITH ADEQUATE VENTILATION.**
   Never start the engine or let it run for any length of time in an enclosed area. Exhaust fumes are poisonous. These fumes contain carbon monoxide, which by itself is odorless and colorless. Carbon monoxide is a dangerous gas which can cause unconsciousness or can be lethal.
7. **PARK THE MACHINE CAREFULLY; TURN OFF THE ENGINE.**
   Always turn off the engine if you area going to leave the machine. Do not park the machine on a slope or soft ground as it may fall over.
8. **THE ENGINE, EXHAUST PIPE, MUFFLER, AND OIL TANK BE VERY HOT AFTER THE ENGINE HAS BEEN RUN.**
   Be careful not to touch them or to allow any clothing item to contact them during inspection or repair.
9. **PROPERLY SECURE THE MACHINE BEFORE TRANSPORTING IT.**
   When transporting the machine in another vehicle, always be sure it is properly secured and in an upright position and that the fuel cock is in the "OFF" position. Otherwise, fuel may leak out of the carburetor or fuel tank.



EC080000

HOW TO USE THIS MANUAL

FINDING THE REQUIRED PAGE

1. This manual consists of six chapters; "General Information", "Specifications", "Regular inspection and adjustments", "Engine", "Chassis" and "Electrical".
2. The table of contents is at the beginning of the manual. Look over the general layout of the book before finding then required chapter and item.
   Bend the book at its edge, as shown, to find the required fore edge symbol mark and go to a page for required item and description.

EC083000

MANUAL FORMAT

All of the procedures in this manual are organized in a sequential, step-by-step format. The information has been complied to provide the mechanic with an easy to read, handy reference that contains comprehensive explanations of all disassembly, repair, assembly, and inspection operations.

In this revised format, the condition of a faulty component will precede an arrow symbol and the course of action required will follow the symbol, e.g.

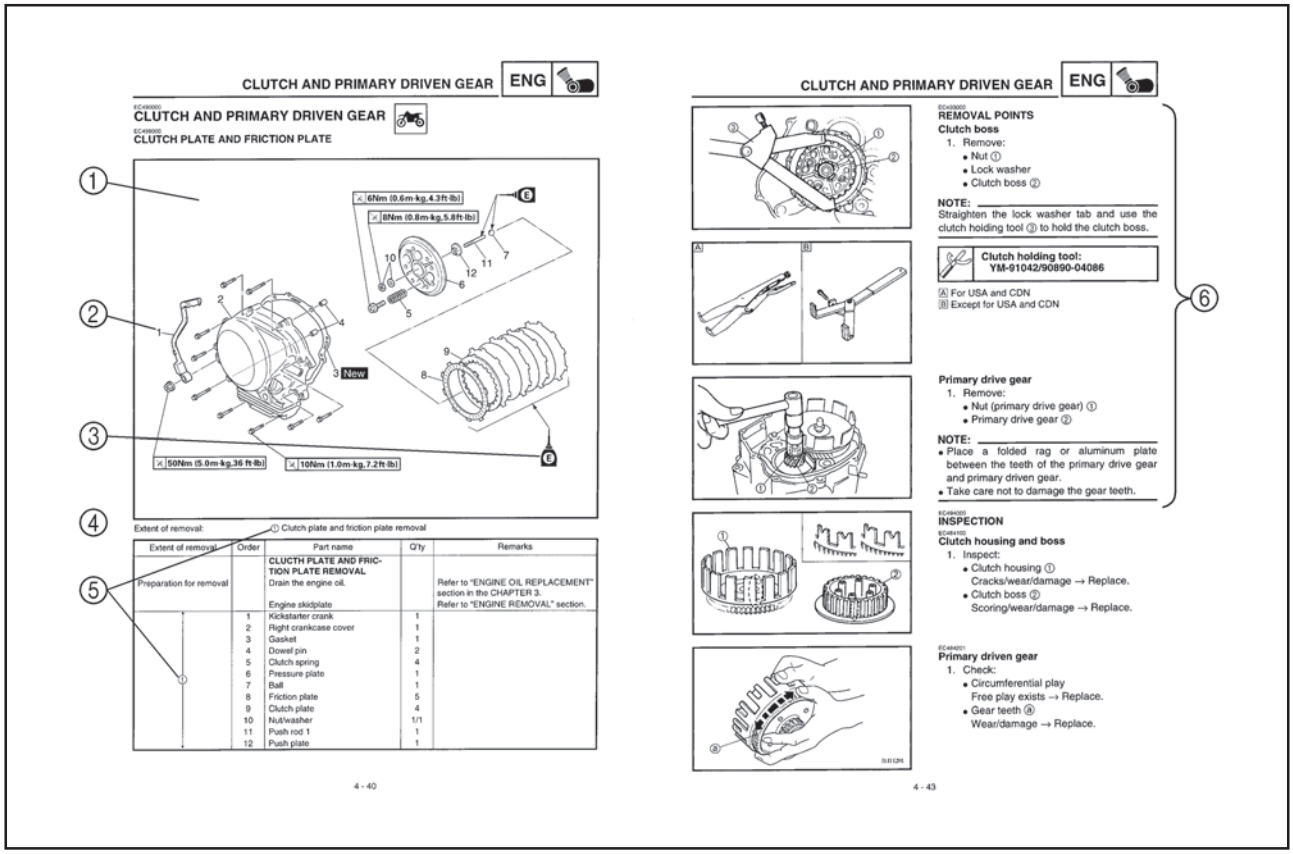
- Bearings
  Pitting/damage → Replace.

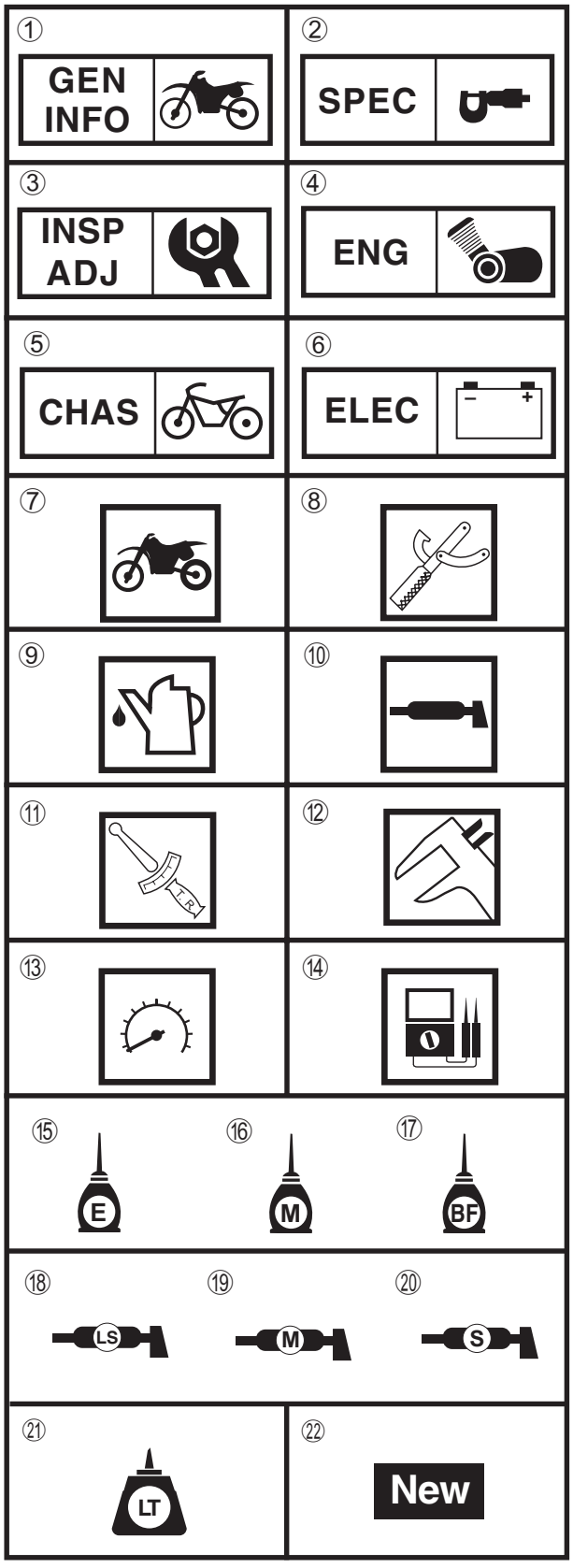
EC084002

HOW TO READ DESCRIPTIONS

To help identify parts and clarify procedure steps, there are exploded diagrams at the start of each removal and disassembly section.

1. An easy-to-see exploded diagram ① is provided for removal and disassembly jobs.
2. Numbers ② are given in the order of the jobs in the exploded diagram. A number that is enclosed by a circle indicates a disassembly step.
3. An explanation of jobs and notes is presented in an easy-to-read way by the use of symbol marks ③. The meanings of the symbol marks are given on the next page.
4. A job instruction chart ④ accompanies the exploded diagram, providing the order of jobs, names of parts, notes in jobs, etc.
5. Extent of removal ⑤ is provided in the job instruction chart to save the trouble of an unnecessary removal job.
6. For jobs requiring more information, the step-by-step format supplements ⑥ are given in addition to the exploded diagram and job instruction chart.


CLUTCH AND PRIMARY DRIVEN GEAR
ENG
CLUTCH AND PRIMARY DRIVEN GEAR
CLUTCH PLATE AND FRICTION PLATE
6Nm (0.6m-kg, 4.3ft-lb)
8Nm (0.8m-kg, 5.8ft-lb)
New
50Nm (5.0m-kg, 36 ft-lb)
10Nm (1.0m-kg, 7.2ft-lb)
Extent of removal:
① Clutch plate and friction plate removal
Extent of removal | Order | Part name | Q'ty | Remarks
Preparation for removal | | CLUTCH PLATE AND FRICTION PLATE REMOVAL
Drain the engine oil. | | | Refer to "ENGINE OIL REPLACEMENT" section in the CHAPTER 3.
Engine skidplate | | | Refer to "ENGINE REMOVAL" section.
① | 1 | Kickstarter crank | 1 |
2 | Right crankcase cover | 1 |
3 | Gasket | 1 |
4 | Dowel pin | 2 |
5 | Clutch spring | 4 |
6 | Pressure plate | 1 |
7 | Ball | 1 |
8 | Friction plate | 5 |
9 | Clutch plate | 4 |
10 | Nut/washer | 1/1 |
11 | Push rod 1 | 1 |
12 | Push plate | 1
4 - 40
CLUTCH AND PRIMARY DRIVEN GEAR
ENG
REMOVAL POINTS
Clutch boss
1. Remove:
• Nut ①
• Lock washer
• Clutch boss ②
NOTE:
Straighten the lock washer tab and use the clutch holding tool ③ to hold the clutch boss.
Clutch holding tool:
YM-91042/90890-04086
A For USA and CDN
B Except for USA and CDN
Primary drive gear
1. Remove:
• Nut (primary drive gear) ①
• Primary drive gear ②
NOTE:
• Place a folded rag or aluminum plate between the teeth of the primary drive gear and primary driven gear.
• Take care not to damage the gear teeth.
INSPECTION
Clutch housing and boss
1. Inspect:
• Clutch housing ①
Cracks/wear/damage → Replace.
• Clutch boss ②
Scoring/wear/damage → Replace.
Primary driven gear
1. Check:
• Circumferential play
Free play exists → Replace.
• Gear teeth Ⓐ
Wear/damage → Replace.
6
4 - 43



ILLUSTRATED SYMBOLS (Refer to the illustration)

Illustrated symbols ① to ⑥ are designed as thumb tabs to indicate the chapter's number and content.

① General information
② Specifications
③ Regular inspection and adjustments
④ Engine
⑤ Chassis
⑥ Electrical

Illustrated symbols ⑦ to ⑭ are used to identify the specifications appearing in the text.

⑦ With engine mounted
⑧ Special tool
⑨ Filling fluid
⑩ Lubricant
⑪ Tightening
⑫ Specified value, Service limit
⑬ Engine speed
⑭ Resistance (Ω), Voltage (V), Electric current (A)

Illustrated symbols ⑮ to ⑲ in the exploded diagrams indicate grade of lubricant and location of lubrication point.

⑮ Apply engine oil
⑯ Apply molybdenum disulfide oil
⑰ Apply brake fluid
⑱ Lithium soap base grease
⑲ Apply molybdenum disulfide grease

Illustrated symbols ⑳ to ㉒ in the exploded diagrams indicate where to apply a locking agent and when to install new parts.

⑳ Apply silicone grease
㉑ Apply locking agent (LOCTITE®)
㉒ Use new one

MEMO

INDEX

GENERAL INFORMATION	GEN INFO 1
SPECIFICATIONS	SPEC 2
REGULAR INSPECTION AND ADJUSTMENTS	INSP ADJ 3
ENGINE	ENG 4
CHASSIS	CHAS 5
ELECTRICAL	ELEC 6

EC0A0000

CONTENTS

CHAPTER 1
GENERAL INFORMATION

MACHINE IDENTIFICATION 1-1
IMPORTANT INFORMATION 1-2
CHECKING OF CONNECTION 1-4
SPECIAL TOOLS 1-5

CHAPTER 2
SPECIFICATIONS

GENERAL SPECIFICATIONS 2-1
  TT-R125E 2-1
  TT-R125LE 2-4
MAINTENANCE SPECIFICATIONS 2-7
  ENGINE 2-7
  CHASSIS 2-15
    TT-R125E 2-15
    TT-R125LE 2-19
  ELECTRICAL 2-23
GENERAL TORQUE SPECIFICATIONS. 2-25
DEFINITION OF UNITS 2-25
CABLE ROUTING DIAGRAM 2-26

CHAPTER 3

REGULAR INSPECTION AND ADJUSTMENTS

MAINTENANCE INTERVALS 3-1
PRE-OPERATION INSPECTION AND MAINTENANCE 3-4
ENGINE 3-5
CHASSIS 3-16
ELECTRICAL 3-33

CHAPTER 4

ENGINE

SEAT, FUEL TANK AND SIDE COVERS 4-1
MUFFLER 4-2
CARBURETOR 4-3
CYLINDER HEAD 4-12
CAMSHAFT AND ROCKER ARMS 4-20
VALVES AND VALVE SPRINGS 4-24
CYLINDER AND PISTON 4-32
CLUTCH AND PRIMARY DRIVEN GEAR 4-39
OIL PUMP 4-48
KICK AXLE AND SHIFT SHAFT 4-52
CDI MAGNETO AND STARTER CLUTCH 4-57
ENGINE REMOVAL 4-62
CRANKCASE, CRANKSHAFT AND BALANCER 4-66
TRANSMISSION, SHIFT CAM AND SHIFT FORK 4-74

CHAPTER 5
CHASSIS

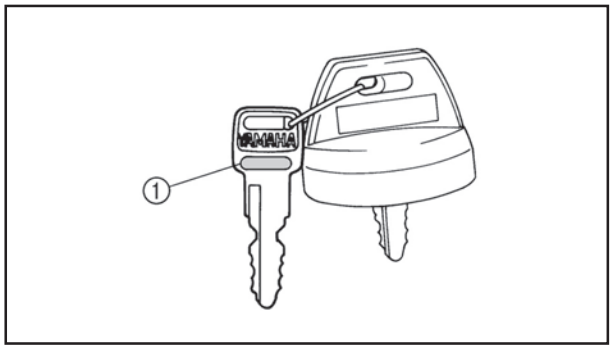
FRONT WHEEL AND FRONT BRAKE (TT-R125E) 5-1
FRONT WHEEL (TT-R125LE) 5-8
FRONT BRAKE (TT-R125LE) 5-12
REAR WHEEL AND REAR BRAKE 5-24
FRONT FORK 5-32
HANDLEBAR 5-42
STEERING 5-50
SWINGARM 5-56
REAR SHOCK ABSORBER ASSEMBLY 5-63

CHAPTER 6
ELECTRICAL

ELECTRICAL COMPONENTS AND WIRING DIAGRAM 6-1
IGNITION SYSTEM 6-2
ELECTRIC STARTING SYSTEM 6-7
CHARGING SYSTEM 6-16

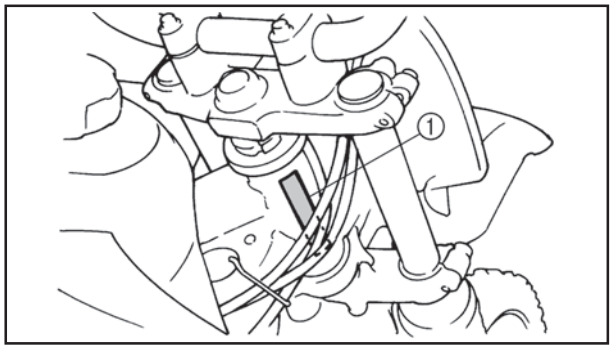
EC120001
MACHINE IDENTIFICATION

There are two significant reasons for knowing the serial number of your machine:
1. When ordering parts, you can give the number to your Yamaha dealer for positive identification of the model you own.
2. If your machine is stolen, the authorities will need the number to search for and identify your machine.



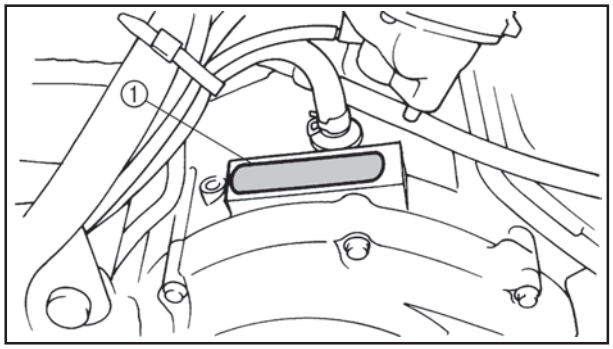
KEY IDENTIFICATION NUMBER

The key identification number ① is stamped on the key as shown in the following illustration. This number can be used for ordering a new key.



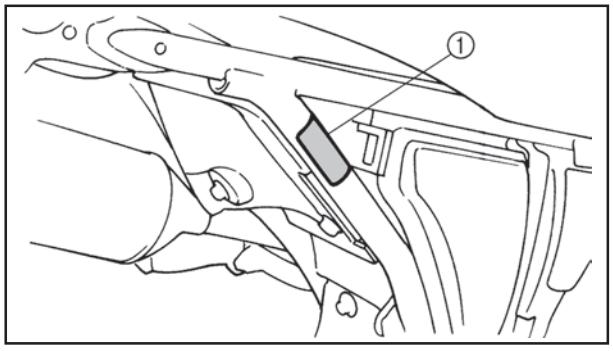
EC121001
VEHICLE IDENTIFICATION NUMBER

The vehicle identification number ① is stamped on the right of the steering head pipe.



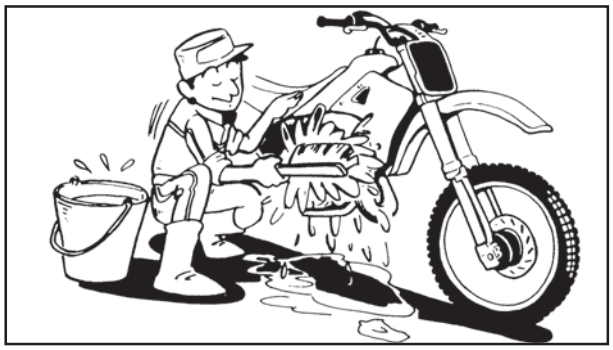
EC123001
ENGINE SERIAL NUMBER

The engine serial number ① is stamped into the elevated part of the right-side of the engine.



EC124000
MODEL LABEL

The model label ① is affixed to the frame under the rider's seat. This information will be needed to order spare parts.

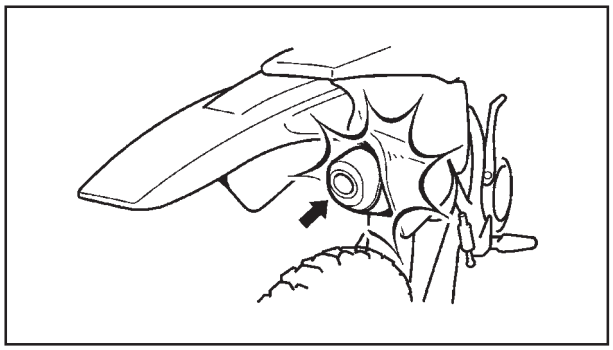


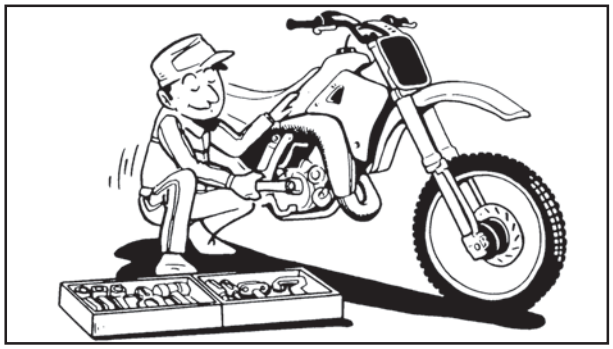
EC130000

IMPORTANT INFORMATION

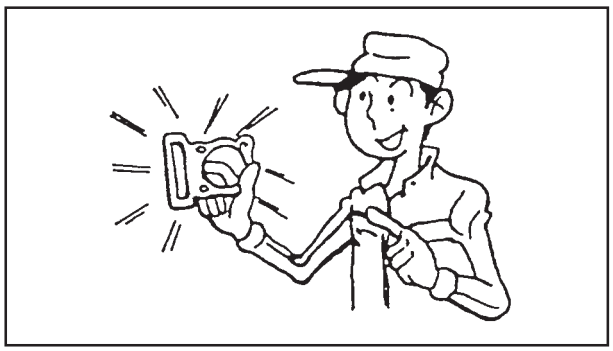
PREPARATION FOR REMOVAL AND DISASSEMBLY

1. Remove all dirt, mud, dust, and foreign material before removal and disassembly. When washing the machine with high pressured water, cover the part as follow.
   - Silencer exhaust port

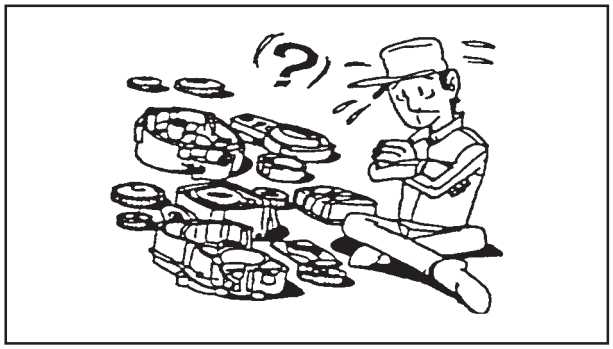




2. Use proper tools and cleaning equipment. Refer to "SPECIAL TOOLS" section.



3. When disassembling the machine, keep mated parts together. They include gears, cylinders, pistons, and other mated parts that have been "mated" through normal wear. Mated parts must be reused as an assembly or replaced.



4. During the machine disassembly, clean all parts and place them in trays in the order of disassembly. This will speed up assembly time and help assure that all parts are correctly reinstalled.

5. Keep away from fire.

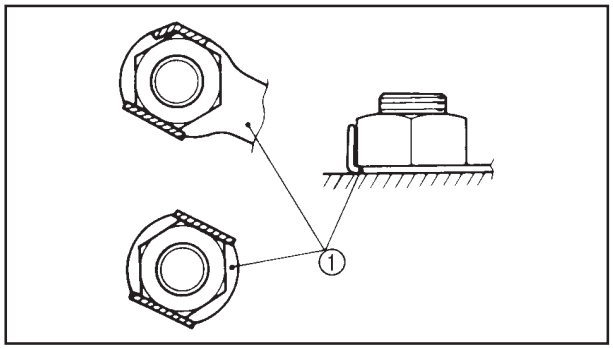
EC132000
ALL REPLACEMENT PARTS

1. We recommend to use Yamaha genuine parts for all replacements. Use oil and/or grease recommended by Yamaha for assembly and adjustment.

EC133000
GASKETS, OIL SEALS AND O-RINGS

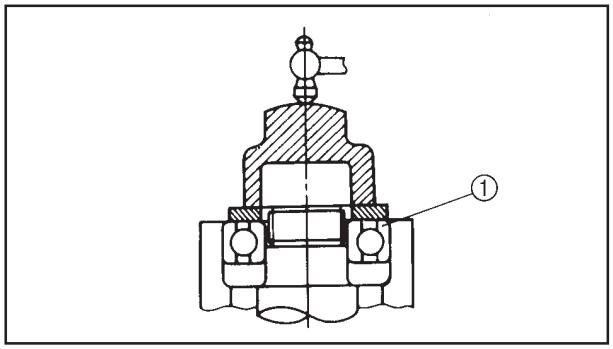
1. All gaskets, oil seals, and O-rings should be replaced when an engine is overhauled. All gasket surfaces, oil seal lips, and O-rings must be cleaned.
2. Properly oil all mating parts and bearings during reassembly. Apply grease to the oil seal lips.

EC134000
LOCK WASHERS/PLATES AND COTTER PINS

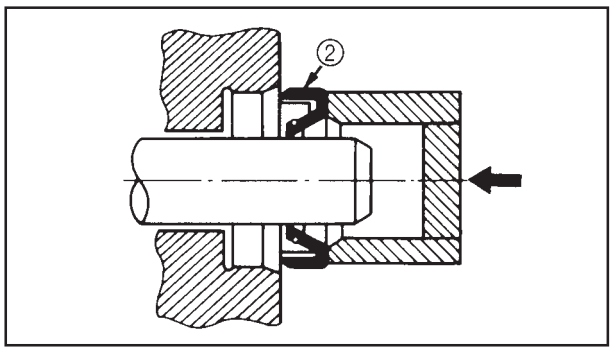


1. All lock washers/plates ① and cotter pins must be replaced when they are removed. Lock tab(s) should be bent along the bolt or nut flat(s) after the bolt or nut has been properly tightened.

EC135001
BEARINGS AND OIL SEALS



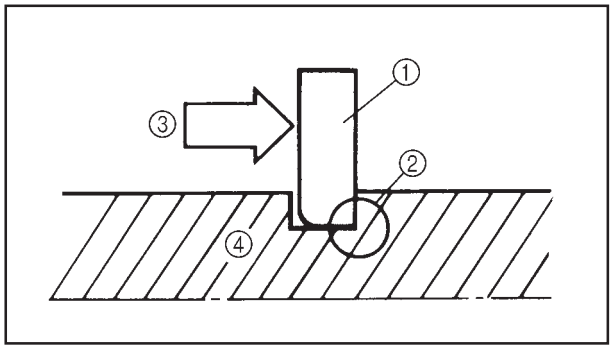
1. Install the bearing(s) ① and oil seal(s) ② with their manufacturer's marks or numbers facing outward. (In other words, the stamped letters must be on the side exposed to view.) When installing oil seal(s), apply a light coating of lightweight lithium base grease to the seal lip(s). Oil the bearings liberally when installing.



NOTICE

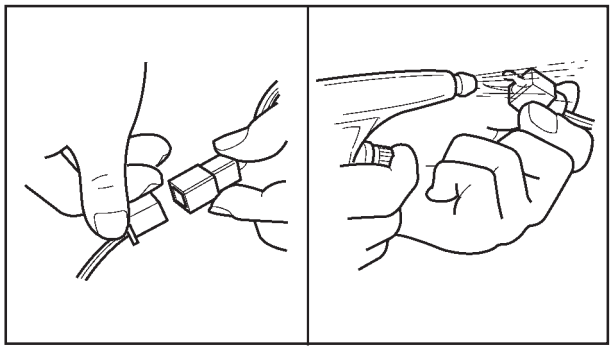
Do not use compressed air to spin the bearings dry. This causes damage to the bearing surfaces.

EC136000
CIRCLIPS



1. All circlips should be inspected carefully before reassembly. Always replace piston pin clips after one use. Replace distorted circlips. When installing a circlip ①, make sure that the sharp-edged corner ② is positioned opposite to the thrust ③ it receives. See the sectional view.

④ Shaft

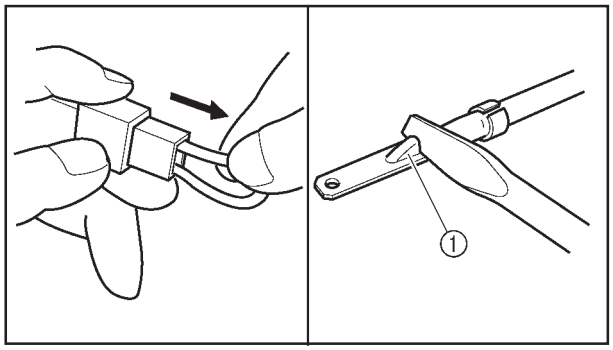


EC1C0000

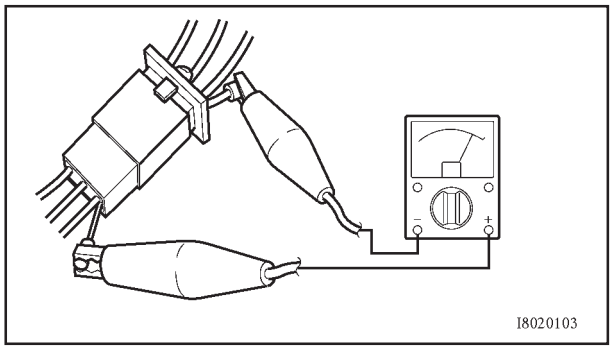
CHECKING OF CONNECTION

Dealing with stains, rust, moisture, etc. on the connector.

1. Disconnect:
   • Connector
2 Dry each terminal with an air bower.



3. Connect and disconnect the connector two or three times.
4. Pull the lead to check that it will not come off.
5. If the terminal comes off, bend up the pin ① and reinsert the terminal into the connector.

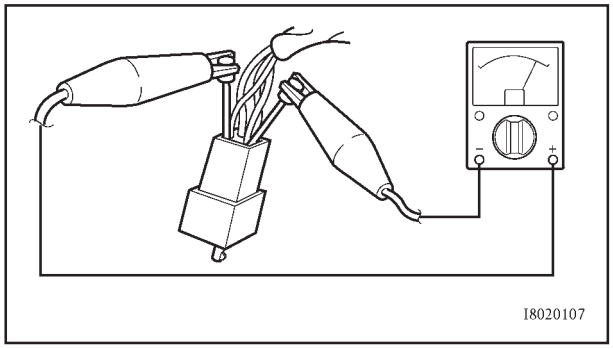


6. Connect:
   • Connector

TIP

The two connectors "click" together.

7. Check for continuity with a tester.



TIP

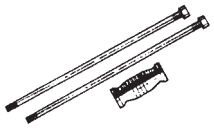
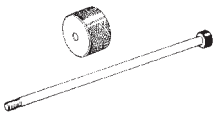
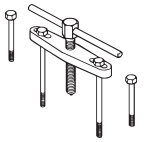
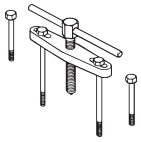
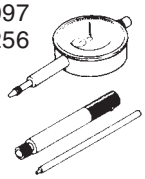
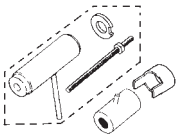
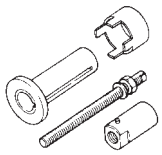
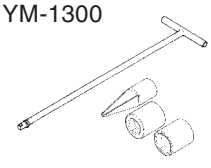
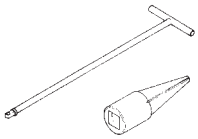
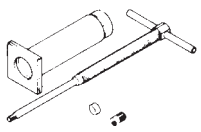
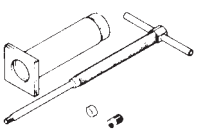
- If there in no continuity, clean the terminals.
- Be sure to perform the steps 1 to 7 listed above when checking the wireharness.
- For a field remedy, use a contact revitalizer available on the market.
- Use the tester on the connector as shown.

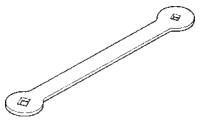
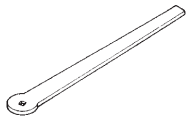
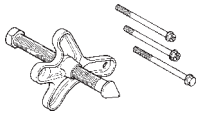
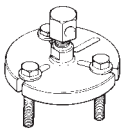
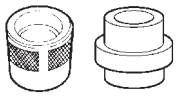
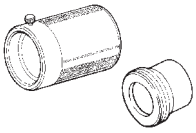
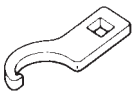
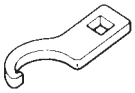
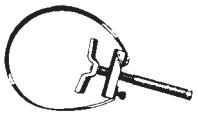
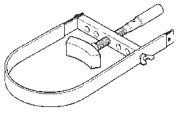
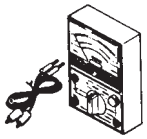
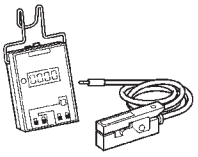
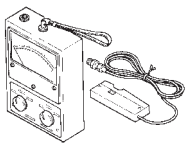
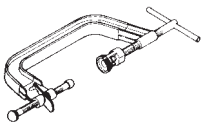
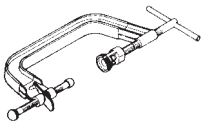
SPECIAL TOOLS

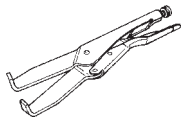
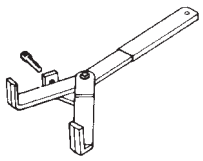
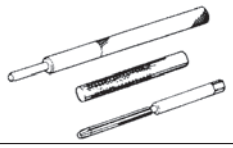
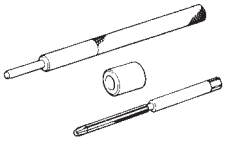
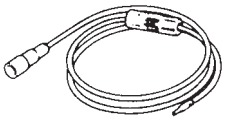
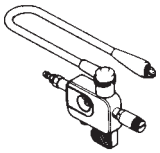
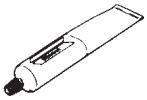
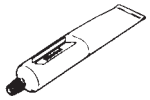
The proper special tools are necessary for complete and accurate tune-up and assembly. Using the correct special tool will help prevent damage caused by the use of improper tools or improvised techniques. The shape and part number used for the special tool differ by country, so two types are provided. Refer to the list provided to avoid errors when placing an order.

TIP

- For U.S.A. and CDN, use part number starting with "YM-", "YU-", "YS-" or "ACC-".
- For others, use part number starting with "90890-".

Part number	Tool name/How to use	Illustration	
YU-1083-A 90890-01084 90890-01085	Small slide hammer set Weight Slide hammer bolt These tools are used when removing or installing the rocker arm shafts.	YU-1083-A 	90890-01084 90890-01085 
YU-1135-A, 90890-01135	Crankcase separating tool These tools are used to split the crankcase as well as remove the crankshaft from either case.	YU-1135-A 	90890-01135 
YU-3097, 90890-01252 YU-1256	Dial gauge & stand set Stand These tools are used to check each part for runout or bend.	YU-3097 YU-1256 	90890-01252
YU-90050, 90890-01274 YU-90050, 90890-01275 YU-90063, 90890-01278 YU-91044, 90890-04081	Crankcase installing tool Crankshaft installer pot Crankshaft installer bolt Adaptor Spacer (crankshaft installer) These tools are used to install the crankshaft.	YU-90050 YU-91044 YU-90063 	90890-01274 90890-01275 90890-01278 90890-04081 
YM-1326, 90890-01326 YM-1300, 90890-01294	T-handle Damper rod holder These tools are used for holding the damper rod holder when removing or installing the damper rod holder.	YM-1326 YM-1300 	90890-01326 90890-01294 
YU-1304, 90890-01304	Piston pin puller set This tool is used to remove the piston pin.	YU-1304 	90890-01304 

Part number	Tool name/How to use	Illustration	
YM-8035, 90890-01311	Tappet adjusting tool This tool is necessary for adjusting valve clearance.	YM-8035 	90890-01311 
YM-1312-A, 90890-01312	Fuel level gauge This gauge is used to measure the fuel level in the float chamber.	YM-1312-A	90890-01312
YU-33270-B, 90890-01362	Flywheel puller This tool is used to remove the rotor.	YU-33270-B 	90890-01362 
YM-33963, 90890-01367 YM-33281, 90890-01400	Fork seal driver weight Fork seal driver attachment These tools are used to installing the fork oil seal.	YM-33963 YM-33281 	90890-01367 90890-01400 
YU-33975, 90890-01403	Steering nut wrench This tool is used when tighten the steering ring nut to specification.	YU-33975 	90890-01403 
YS-1880-A, 90890-01701	Sheave holder This tool is used for when loosening or tightening the flywheel magneto securing nut.	YS-1880-A 	90890-01701 
YU-3112-C, 90890-03112	Pocket tester Use this tool to inspect the coil resistance, output voltage and amperage.	YU-3112-C 	90890-03112
YU-8036-B 90890-03113	Inductive tachometer Engine tachometer This tool is needed for observing engine rpm.	YU-8036-B 	90890-03113 
YM-4019, 90890-04019	Valve spring compressor This tool is needed to remove and install the valve assemblies.	YM-4019 	90890-04019 

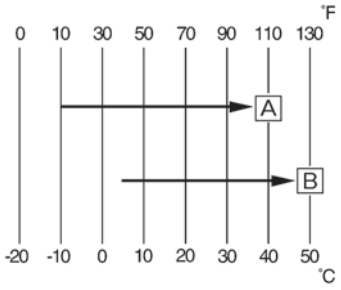
Part number	Tool name/How to use	Illustration	
YM-91042, 90890-04086	Clutch holding tool This tool is used to hold the clutch when removing or installing the clutch boss securing nut.	YM-91042 	90890-04086 
YM-4097, 90890-04097 YM-4098, 90890-04098 YM-04099, 90890-04099	Valve guide remover Valve guide installer Valve guide reamer These tools are needed to rebore the new valve guide	YM-4097 YM-4098 YM-04099 	90890-04097 90890-04098 90890-04099 
YM-34487 90890-06754	. Dynamic spark tester Ignition checker This instrument is necessary for checking the ignition system components	YM-34487 	90890-06754 
ACC-QUICK-GS-KT 90890-85505	. Quick gasket® YAMAHA Bond No.1215 This sealant (Bond) is used for crankcase mating surface, etc.	ACC-QUICK-GS-KT 	90890-85505 

EC200000
SPECIFICATIONS

EC211000
GENERAL SPECIFICATIONS

TT-R125E

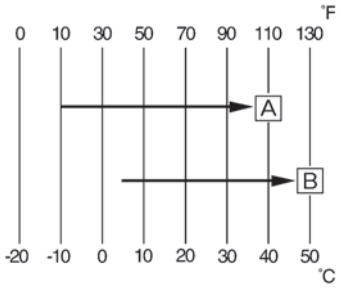
Model name:	TT-R125EY
Model code number:	39C1
Dimensions:	
Overall length	1,845 mm (72.6 in)
Overall width	785 mm (30.9 in)
Overall height	1,060 mm (41.7 in)
Seat height	775 mm (30.5 in)
Wheelbase	1,250 mm (49.2 in)
Minimum ground clearance	265 mm (10.4 in)
Basic weight:	
With oil and full fuel tank	90 kg (198.4 lb)
Engine:	
Engine type	Air cooled 4-stroke, SOHC
Cylinder arrangement	Single cylinder, forward inclined
Displacement	124 cm^3 (7.57 cu.in)
Bore s x stroke	54.0 x 54.0 mm (2.126 x 2.126 in)
Compression ratio	10.0:1
Starting system	Kick and electric starter
Lubrication system:	Wet sump

Oil type or grade: Engine oil  	At -10 °C (10 °F) or higher [A] Yamalube 4 (10W-30) or SAE 10W-30 type SE motor oil At 5 °C (40 °F) or higher [B] Yamalube 4 (20W-40) or SAE 20W-40 type SE motor oil
Oil capacity: Engine oil Periodic oil change Total amount	 1.0 L (0.88 Imp qt, 1.06 US qt) 1.2 L (1.06 Imp qt, 1.27 US qt)
Air filter:	Wet type element
Fuel: Type Tank capacity Reserve amount	 Unleaded gasoline only 6.0 L (1.31 Imp gal, 1.58 US gal) 0.83 L (0.18 Imp gal, 0.22 US gal)
Carburetor: Type Manufacturer	 VM20x1 MIKUNI
Spark plug: Type Manufacturer Gap	 CR7HSA/U22FSR-U NGK/DENSO 0.6 ~ 0.7 mm (0.02 ~ 0.03 in)
Clutch type:	Wet, multiple-disc

Transmission:		
Primary reduction system		Gear
Primary reduction ratio		68/19 (3.579)
Secondary reduction system		Chain drive
Secondary reduction ratio		49/13 (3.769)
Transmission type		Constant mesh, 5-speed
Operation		Left foot operation
Gear ratio:	1st	37/14 (2.643)
	2nd	32/18 (1.778)
	3rd	25/19 (1.316)
	4th	23/22 (1.045)
	5th	21/24 (0.875)
Chassis:		
Frame type		Diamond
Caster angle		28.7°
Trail		93 mm (3.66 in)
Tire:		
Type		With tube
Size (front)		70/100-17 40M
Size (rear)		90/100-14 49M
Manufacturer (front and rear)		CHENG SHIN
Tire pressure (front and rear)		100 kPa (1.00 kgf/cm^2, 15 psi)
Brake:		
Front brake type		Drum brake
Operation		Right hand operation
Rear brake type		Drum brake
Operation		Right foot operation
Suspension:		
Front suspension		Telescopic fork
Rear suspension		Swingarm (link type monocross suspension)
Shock absorber:		
Front shock absorber		Coil spring/oil damper
Rear shock absorber		Coil spring/gas, oil damper
Wheel travel:		
Front wheel travel		180 mm (7.09 in)
Rear wheel travel		160 mm (6.30 in)
Electrical:		
Ignition system		CDI
Generator system		CDI magneto
Battery type		GT4L-BS
Battery voltage/capacity		12 V/3.2 AH
Specific gravity		1.330

TT-R125LE

Model name:	TT-R125LEY
Model code number:	19CA
Dimensions: Overall length Overall width Overall height Seat height Wheelbase Minimum ground clearance	 1,885 mm (74.2 in) 795 mm (31.3 in) 1,085 mm (42.7 in) 805 mm (31.7 in) 1,270 mm (50.0 in) 295 mm (11.6 in)
Basic weight: With oil and full fuel tank	 90 kg (198.4 lb)
Engine: Engine type Cylinder arrangement Displacement Bore s x stroke Compression ratio Starting system	 Air cooled 4-stroke, SOHC Single cylinder, forward inclined 124 cm^3 (7.57 cu.in) 54.0 x 54.0 mm (2.126 x 2.126 in) 10.0:1 Kick and electric starter
Lubrication system:	Wet sump

Oil type or grade: Engine oil  	At -10 °C (10 °F) or higher [A] Yamalube 4 (10W-30) or SAE 10W-30 type SE motor oil At 5 °C (40 °F) or higher [B] Yamalube 4 (20W-40) or SAE 20W-40 type SE motor oil
Oil capacity: Engine oil Periodic oil change Total amount	 1.0 L (0.88 Imp qt, 1.06 US qt) 1.2 L (1.06 Imp qt, 1.27 US qt)
Air filter:	Wet type element
Fuel: Type Tank capacity Reserve amount	 Unleaded gasoline only 6.0 L (1.31 Imp gal, 1.58 US gal) 0.83 L (0.18 Imp gal, 0.22 US gal)
Carburetor: Type Manufacturer	 VM20x1 MIKUNI
Spark plug: Type Manufacturer Gap	 CR7HSA/U22FSR-U NGK/DENSO 0.6 ~ 0.7 mm (0.02 ~ 0.03 in)
Clutch type:	Wet, multiple-disc

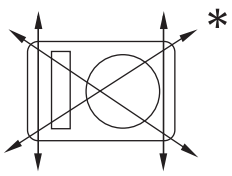
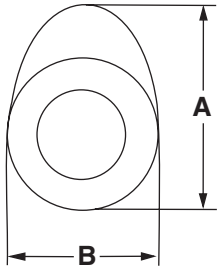
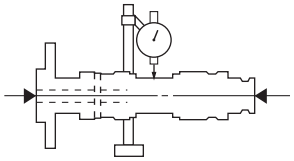
Transmission:		
Primary reduction system		Gear
Primary reduction ratio		68/19 (3.579)
Secondary reduction system		Chain drive
Secondary reduction ratio		54/13 (4.154)
Transmission type		Constant mesh, 5-speed
Operation		Left foot operation
Gear ratio:	1st	37/14 (2.643)
	2nd	32/18 (1.778)
	3rd	25/19 (1.316)
	4th	23/22 (1.045)
	5th	21/24 (0.875)
Chassis:		
Frame type		Diamond
Caster angle		28.5°
Trail		107 mm (4.21 in)
Tire:		
Type		With tube
Size (front)		70/100-19 42M
Size (rear)		90/100-16 52M
Manufacturer (front and rear)		INOUE RUBBER
Tire pressure (front and rear)		100 kPa (1.00 kgf/cm^2, 15 psi)
Brake:		
Front brake type		Single disc brake
Operation		Right hand operation
Rear brake type		Drum brake
Operation		Right foot operation
Suspension:		
Front suspension		Telescopic fork
Rear suspension		Swingarm (link type monocross suspension)
Shock absorber:		
Front shock absorber		Coil spring/oil damper
Rear shock absorber		Coil spring/gas, oil damper
Wheel travel:		
Front wheel travel		180 mm (7.09 in)
Rear wheel travel		168 mm (6.61 in)
Electrical:		
Ignition system		CDI
Generator system		CDI magneto
Battery type		GT4L-BS
Battery voltage/capacity		12 V/3.2 AH
Specific gravity		1.330

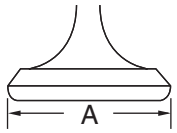
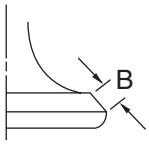
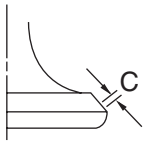
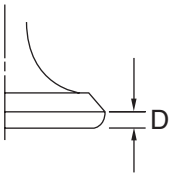
EC212000

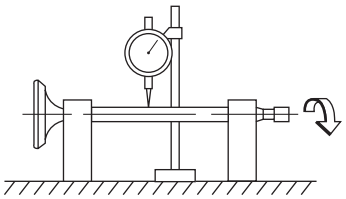
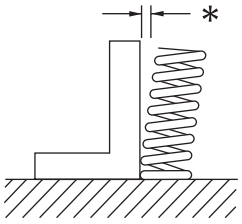
MAINTENANCE SPECIFICATIONS

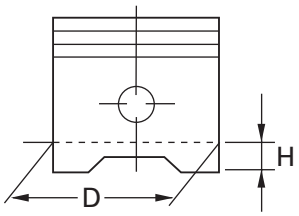
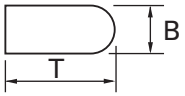
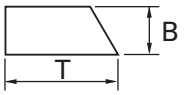
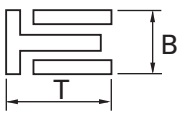
EC212100

ENGINE

Item	Standard	Limit
Cylinder head:		
Warp limit 	----	0.03 mm (0.0012 in)
Cylinder:		
Bore size	54.000 ~ 54.019 mm (2.1260 ~ 2.1267 in)	----
Out of round limit	----	0.05 mm (0.0020 in)
Camshaft:		
Drive method	Chain drive (left)	----
Cam dimensions 		
Intake "A"	25.881 ~ 25.981 mm (1.0189 ~ 1.0229 in)	25.851 mm (1.0178 in)
"B"	21.195 ~ 21.295 mm (0.8344 ~ 0.8384 in)	21.165 mm (0.8333 in)
Exhaust "A"	25.841 ~ 25.941 mm (1.0174 ~ 1.0213 in)	25.811 mm (1.0162 in)
"B"	21.050 ~ 21.150 mm (0.8287 ~ 0.8327 in)	21.020 mm (0.8276 in)
Camshaft run out limit 	----	0.03 mm (0.0012 in)

Item		Standard	Limit
Cam chain:			
Cam chain type/No. of links		SCR - 0404 SV/90	----
Cam chain adjustment method		Automatic	----
Rocker arm/rocker arm shaft:			
Shaft outside diameter		9.981 ~ 9.991 mm (0.3930 ~ 0.3933 in)	9.95 mm (0.3917 in)
Rocker arm inside diameter		10.000 ~ 10.015 mm (0.3937 ~ 0.3943 in	10.03 mm (0.3949 in)
Valve, valve seat, valve guide:			
Valve clearance (cold)	IN	0.08 ~ 0.12 mm (0.0031 ~ 0.0047 in)	----
	EX	0.10 ~ 0.14 mm (0.0039 ~ 0.0055 in)	----
Valve dimensions:			
 Head diameter		 Face width	 Seat width
 Margin thickness			
"A" head diameter	IN	25.9 ~ 26.1 mm (1.0197 ~ 1.0276 in)	----
	EX	21.9 ~ 22.1 mm (0.8622 ~ 0.8701 in)	----
"B" face width	IN	1.1 ~ 3.0 mm (0.0433 ~ 0.1181 in)	----
	EX	1.7 ~ 2.8 mm (0.0669 ~ 0.1102 in)	----
"C" seat width	IN	0.9 ~ 1.1 mm (0.0354 ~ 0.0433 in)	1.6 mm (0.0630 in)
	EX	0.9 ~ 1.1 mm (0.0354 ~ 0.0433 in)	1.6 mm (0.0630 in)
"D" margin thickness	IN	0.4 ~ 0.8 mm (0.0157 ~ 0.0315 in)	----
	EX	0.8 ~ 1.2 mm (0.0315 ~ 0.0472 in)	----
Stem outside diameter	IN	4.975 ~ 4.990 mm (0.1959 ~ 0.1965 in)	4.950 mm (0.1949 in)
	EX	4.960 ~ 4.975 mm (0.1953 ~ 0.1959 in)	4.935 mm (0.1943 in)
Guide inside diameter	IN	5.000 ~ 5.012 mm (0.1969 ~ 0.1973 in)	5.042 mm (0.1985 in)
	EX	5.000 ~ 5.012 mm (0.1969 ~ 0.1973 in)	5.042 mm (0.1985 in)
Stem-to-guide clearance	IN	0.010 ~ 0.037 mm (0.0004 ~ 0.0015 in)	0.08 mm (0.0031 in)
	EX	0.025 ~ 0.052 mm (0.0010 ~ 0.0020 in)	0.10 mm (0.0040 in)

Item		Standard	Limit
Stem run out limit 		----	0.01 mm (0.0004 in)
Valve seat width	IN	0.9 ~ 1.1 mm (0.0354 ~ 0.0433 in)	1.6 mm (0.0630 in)
	EX	0.9 ~ 1.1 mm (0.0354 ~ 0.0433 in)	1.6 mm (0.0630 in)
Valve spring:			
Free length	IN	38.78 mm (1.52 in)	36.84 mm (1.45 in)
	EX	38.78 mm (1.52 in)	36.84 mm (1.45 in)
Set length (valve closed)	IN	25.6 mm (1.01 in)	----
	EX	25.6 mm (1.01 in)	----
Compressed pressure (installed)	IN	191 ~ 219 N (19.5 ~ 22.3 kgf, 42.93 ~ 49.23 lbf)	----
	EX	191 ~ 219 N (19.5 ~ 22.3 kgf, 42.93 ~ 49.23 lbf)	----
Tilt limit *	IN	----	2.5°/1.7 mm 2.5°/0.07 in
	EX	----	2.5°/1.7 mm 2.5°/0.07 in
			
Direction of winding (top view)	IN	Clockwise	----
	EX	Clockwise	----

Item	Standard	Limit
Piston:		
Piston to cylinder clearance	0.020 ~ 0.026 mm (0.0008 ~ 0.0010 in)	0.15 mm (0.0059 in)
Piston size "D"	53.977 ~ 53.996 mm (2.1251 ~ 2.1258 in)	----
		
Piston over size (2nd) (4th)	54.5 mm (2.1457 in) 55.0 mm (2.1654 in)	---- ----
Measuring point "H"	5 mm (0.20 in)	----
Piston off-set	0.5 mm (0.0197 in)	----
Piston pin bore inside diameter	15.002 ~ 15.013 mm (0.5906 ~ 0.5911 in)	15.043 mm (0.5922 in)
Piston pin outside diameter	14.991 ~ 15.000 mm (0.5902 ~ 0.5906 in)	14.971 mm (0.5894 in)
Piston rings		
Top ring		
		
Type	Barrel	----
Dimensions (B × T)	1.0 × 2.1 mm (0.04 × 0.08 in)	----
End gap (installed)	0.15 ~ 0.30 mm (0.006 ~ 0.012 in)	0.4 mm (0.016 in)
Side clearance (installed)	0.035 ~ 0.090 mm (0.0014 ~ 0.0035 in)	0.12 mm (0.0047 in)
2nd ring		
		
Type	Taper	----
Dimensions (B × T)	1.0 × 2.1 mm (0.04 × 0.08 in)	----
End gap (installed)	0.15 ~ 0.30 mm (0.006 ~ 0.012 in)	0.40 mm (0.016 in)
Side clearance	0.020 ~ 0.060 mm (0.0008 ~ 0.0024 in)	0.12 mm (0.0047 in)
Oil ring		
		
Dimensions (B × T)	2.0 × 2.2 mm (0.08 × 0.09 in)	----
End gap (installed)	0.20 ~ 0.70 mm (0.01 ~ 0.03 in)	----

Item		Standard	Limit
Crankshaft:			
Crank width "A"		46.95 ~ 47.00 mm (1.848 ~ 1.850 in)	----
Runout limit "C"			0.03 mm (0.0012 in)
Big end side clearance "D"		0.15 ~ 0.45 mm (0.0059 ~ 0.0177 in)	0.5 mm (0.02 in)
Clutch:			
Friction plate thickness		2.92 ~ 3.08 mm (0.115 ~ 0.121 in)	2.8 mm (0.110 in)
Quantity		5	----
Clutch plate thickness		1.05 ~ 1.35 mm (0.041 ~ 0.053 in)	----
Quantity		4	----
Warp limit		----	0.2 mm (0.008 in)
Clutch spring free length		33 mm (1.30 in)	31 mm (1.22 in)
Quantity		4	----
Clutch release method		Inner push, cam push	----
Push rod bending limit		----	0.5 mm (0.020 in)
Shifter:			
Shifter type		Shift drum and guide bar	----
Kick starter:			
Type		Kick and mesh type	----
Carburetor:			
I.D. mark		1B2S00	
Main jet	(M.J)	#100	----
Main jet nozzle	(N.J)	N-9M	----
Main air jet	(M.A.J)	ø0.9	----
Jet needle-clip position	(J.N)	5EI20-1	----
Cutaway	(C.A)	2.5	----
Pilot air jet 1	(P.A.J.1)	#80	----
Pilot air jet 2	(P.A.J.2)	#120	----
Pilot outlet	(P.O)	1.05	----
Pilot jet	(P.J)	#15	----
Bypass	(B.P)	0.8	----
Needle valve seat size	(V.S)	1.8	----
Starter jet 1	(G.S.1)	#30	----
Starter jet 2	(G.S.2)	#1.2	----
Fuel level	(F.L)	6.0 ~ 7.0 mm (0.24 ~ 0.28 in)	----
Engine idle speed		1,300 ~ 1,500 r/min	----

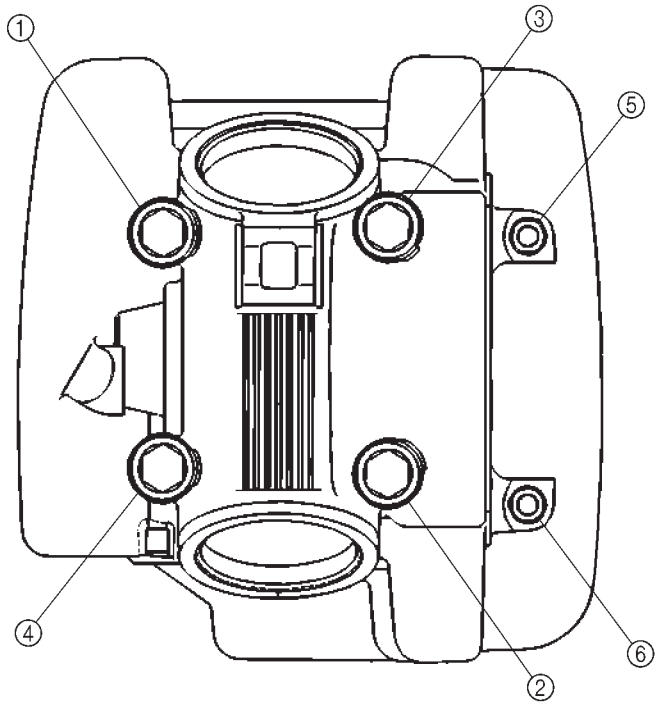
Item	Standard	Limit
Lubrication system:		
Oil filter type	Wire mesh type	----
Oil pump type	Trochoid type	----
Tip clearance	0.15 mm (0.0059 in)	0.2 mm (0.0079 in)
Side clearance	0.06 ~ 0.10 mm (0.0024 ~ 0.0039 in)	0.15 mm (0.0059 in)
Housing and rotor clearance	0.06 ~ 0.10 mm (0.0024 ~ 0.0039 in)	0.15 mm (0.0059 in)

	Part to be tightened	Thread size	Q'ty	Tightening torque		
				Nm	m•kg	ft•lb
	Spark plug	M10 x 1.0	1	13	1.3	9.4
	Cylinder head bolt	M8 × 1.25	4	22	2.2	16
	Cylinder head bolt	M6 × 1.0	2	10	1.0	7.2
	Oil pressure check bolt	M6 × 1.0	1	7	0.7	5.1
	Cylinder head side cover	M6 × 1.0	2	10	1.0	7.2
	Tappet cover	M45 × 1.5	2	18	1.8	13
	Timing chain guide	M6 × 1.0	1	10	1.0	7.2
	Adjusting screw (valve) and locknut	M5 × 0.5	2	8	0.8	5.8
	Camshaft sprocket	M8 × 1.25	1	20	2.0	14
	Bearing plate cover (camshaft)	M6 × 1.0	1	10	1.0	7.2
	Timing chain tensioner cap bolt	M6 × 1.0	1	8	0.8	5.8
	Timing chain tensioner	M6 × 1.0	2	10	1.0	7.2
	Oil pump assembly	M6 × 1.0	2	7	0.7	5.1
	Oil pump cover	M5 × 0.8	1	5	0.5	3.6
	Engine oil drain bolt	M12 × 1.5	1	20	2.0	14
	Carburetor joint	M6 × 1.0	2	10	1.0	7.2
	Carburetor joint clamp (air filter)	M4 × 0.7	1	2	0.2	1.4
	Coasting enricher cover	M4 × 0.7	2	2	0.2	1.4
	Air filter case	M6 × 1.0	3	7	0.7	5.1
△	Muffler	M6 × 1.0	2	10	1.0	7.2
△	Muffler	M10 × 1.25	1	60	6.0	43
△	Muffler	M8 × 1.25	1	30	3.0	22
	Muffler guard	M6 × 1.0	7	10	1.0	7.2
	Spark arrester	M6 × 1.0	3	10	1.0	7.2
	Crankcase	M6 × 1.0	10	10	1.0	7.2
	Left crankcase cover	M6 × 1.0	7	10	1.0	7.2
	Drive sprocket cover	M6 × 1.0	2	12	1.2	8.7
	Right crankcase cover	M6 × 1.0	9	10	1.0	7.2
	Lead guide (CDI Magneto lead)	M6 × 1.0	1	7	0.7	5.1
	Timing Mark accessing screw	M14 × 1.5	1	7	0.7	5.1
	Crankshaft end accessing screw	M32 × 1.5	1	7	0.7	5.1
	Kickstarter crank	M12 × 1.0	1	50	5.0	36
	Starter clutch	M8 × 1.25	3	30	3.0	22
	Plate (starter idle gear)	M6 × 1.0	2	7	0.7	5.1
	Primary drive gear	M12 × 1.0	1	70	7.0	50
	Clutch spring	M5 × 0.8	4	6	0.6	4.3
	Clutch boss	M12 × 1.0	1	60	6.0	43
	Adjusting screw (push rod) and locknut	M6 × 1.0	1	8	0.8	5.8
	Bearing plate cover (main axle)	M6 × 1.0	2	7	0.7	5.1
	Drive sprocket	M5 × 0.8	2	6	0.6	4.3
	Shift arm	M6 × 1.0	1	10	1.0	7.2
	Shift rod and shift pedal	M6 × 1.0	1	7	0.7	5.1
	Shift rod and shift arm	M6 × 1.0	1	7	0.7	5.1
	Shift pedal	M6 × 1.0	1	12	1.2	8.7

Part to be tightened	Thread size	Q'ty	Tightening torque		
			Nm	m•kg	ft•lb
Segment	M6 × 1.0	1	12	1.2	8.7
Stopper lever	M6 × 1.0	1	10	1.0	7.2

TIP
△ - marked portion shall be checked for torque tightening after break-in or before each ride.

Cylinder head tightening sequence



EC212201

CHASSIS

TT-R125E

Item	Standard	Limit
Steering system:		
Steering bearing type (upper)	Angular bearing	----
(lower)	Taper roller bearing	----
Front suspension:		
Front fork travel	180 mm (7.09 in)	---
Fork spring free length	478.7 mm (18.82 in)	472,2mm (18.59 in)
Spring rate, STD	K = 3.00 N/mm (0.310 kg/mm, 17.4 lb/in)	---
Optional spring/spacer	No	---
Oil capacity	171 cm3 (6.02 Imp oz, 5.78 US oz)	---
Oil level	120 mm (4.72 in)	---
Oil grade	Fork oil 10W or equivalent	---
Inner tube outer diameter	31 mm (1.22 in)	---
Front fork top end	Zero mm (Zero in)	---
Rear suspension:		
Shock absorber travel	65 mm (2.56 in)	---
Spring free length	178 mm (7.01 in)	---
Fitting length	165 mm (6.50 in)	---
Spring rate, STD	K = 50.5 N/mm (5.1 kg/mm, 286 lb/in)	---
Optional spring	No	---
Enclosed gas pressure	1,500 kPa (15 kg/cm^2, 213 psi)	---
Wheel:		
Front wheel type	Spoke wheel	---
Rear wheel type	Spoke wheel	---
Front rim size/material	17 × 1.40/Steel	---
Rear rim size/material	14 × 1.60/Steel	---
Rim runout limit:		
Radial	---	2.0 mm (0.08 in)
Lateral	---	2.0 mm (0.08 in)
Drive chain:		
Type/manufacturer	DID428HD/DAIDO	---
Number of links	116 links	---
Chain slack	35 ~ 50 mm (1.4 ~ 2.0 in)	---
Chain length (15 links)		194.3 mm (7.65 in)

Item	Standard	Limit
Drum brake:		
Front drum brake type	Leading, trailing	----
Rear drum brake type	Leading, trailing	----
Front drum inside diameter	110 mm (4.33 in)	111 mm (4.37 in)
Rear drum inside diameter	110 mm (4.33 in)	111 mm (4.37 in)
Front lining thickness	4.0 mm (0.16 in)	2.0 mm (0.08 in)
Rear lining thickness	4.0 mm (0.16 in)	2.0 mm (0.08 in)
Front shoe spring free length	50.5 mm (1.99 in)	----
Rear shoe spring free length	50.5 mm (1.99 in)	----
Brake lever and brake pedal:		
Brake lever free play (lever end)	10 ~ 15 mm (0.39 ~ 0.59 in)	----
Brake pedal position (vertical height below footrest top)	1 mm (0.04 in)	----
Brake pedal free play	20 ~ 30 mm (0.79 ~ 1.18 in)	----
Clutch lever free play (lever end)	10 ~15 mm (0.39 ~ 0.59 in)	----
Throttle grip free play	3 ~ 5 mm (0.12 ~ 0.20 in)	----

	Part to be tightened	Thread size	Q'ty	Tightening torque		
				Nm	m•kg	ft•lb
△	Upper bracket and inner tube	M8 × 1.25	2	25	2.5	18
△	Lower bracket and inner tube	M10 × 1.25	2	60	6.0	43
△	Upper bracket and steering stem	M22 × 1.0	1	110	11.0	80
△	Handlebar upper holder and upper bracket	M8 × 1.25	4	23	2.3	17
	Steering stem and ring nut	M25 × 1.0	1	Refer to TIP.		
	Front fork and cap bolt	M25 × 1.0	2	23	2.3	17
	Front fork and damper rod	M10 × 1.0	2	23	2.3	17
	Front fork and brake cable holder	M6 × 1.0	1	7	0.7	5.1
	Number plate	M6 × 1.0	1	7	0.7	5.1
	Starter knob	M11 × 1.25	1	1	0.1	0.7
	Starter knob stay	M6 × 1.0	2	10	1.0	7.2
	Grip cap upper and lower	M5 × 0.8	2	4	0.4	2.9
	Throttle cable cap	M4 × 0.7	2	2	0.2	1.4
	Brake lever mounting (bolt)	M6 × 1.0	1	3	0.3	2.2
	Brake lever mounting (nut)	M6 × 1.0	1	4	0.4	2.9
	Brake lever holder	M5 × 0.8	2	4	0.4	2.9
	Clutch lever mounting (bolt)	M6 × 1.0	1	7	0.7	5.1
	Clutch lever mounting (nut)	M6 × 1.0	1	7	0.7	5.1
	Clutch lever holder	M5 × 0.8	2	4	0.4	2.9
△	Front wheel axle and axle nut	M12 × 1.25	1	45	4.5	32
△	Front brake camshaft lever and camshaft	M6 × 1.0	1	10	1.0	7.2
△	Rear wheel axle and axle nut	M12 × 1.25	1	60	6.0	43
△	Rear brake camshaft lever and camshaft	M6 × 1.0	1	10	1.0	7.2
	Brake pedal mounting	M10 × 1.25	1	30	3.0	22
	Brake pedal position locknut	M6 × 1.0	1	7	0.7	5.1
△	Front wheel nipple (spoke)	-	36	2	0.2	1.4
△	Rear wheel nipple (spoke)	-	36	3	0.3	2.2
△	Driven sprocket (nut)	M10 × 1.25	4	43	4.3	31
	Driven sprocket (stud)	M10 × 1.25	4	30	3.0	22
	Sidestand mounting (nut)	M10 × 1.25	1	44	4.4	32
	Engine mounting:					
△	Engine bracket (front) and frame	M8 × 1.25	2	40	4.0	29
△	Engine bracket (front) and engine	M8 × 1.25	2	40	4.0	29
△	Engine bracket (upper) and frame	M8 × 1.25	2	40	4.0	29
△	Engine bracket (upper) and cylinder head	M8 × 1.25	1	40	4.0	29
△	Engine and frame (rear)	M8 × 1.25	2	40	4.0	29
△	Pivot shaft and nut	M12 × 1.25	1	53	5.3	38
△	Relay arm and swingarm	M12 × 1.25	1	70	7.0	50

TIP

1. First, tighten the ring nut approximately 38 Nm (3.8 m • kg, 27 ft • lb) by using the ring nut wrench and turn the steering right and left a few times; then loosen the ring nut one turn.
2. Retighten the ring nut 20 Nm (2.0 m • kg, 14 ft • lb).

	Part to be tightened	Thread size	Q'ty	Tightening torque		
				Nm	m•kg	ft•lb
△	Relay arm and connecting arm	M10 × 1.25	1	35	3.5	25
△	Connecting arm and frame	M10 × 1.25	1	35	3.5	25
△	Rear shock absorber assembly and frame	M12 × 1.25	1	53	5.3	38
△	Rear shock absorber assembly and relay arm	M10 × 1.25	1	35	3.5	25
	Rear shock absorber and locknut (preload)	M46 × 1.5	1	42	4.2	30
	Drive chain tensioner (upper)	M8 × 1.25	1	23	2.3	17
	Drive chain tensioner (lower)	M6 × 1.0	1	7	0.7	5.1
	Drive chain support and swingarm	M6 × 1.0	2	7	0.7	5.1
	Drive chain guide and swingarm	M6 × 1.0	2	7	0.7	5.1
	Drive chain guard mounting	M6 × 1.0	2	7	0.7	5.1
△	Fuel tank mounting	M6 × 1.0	2	10	1.0	7.2
△	Fuel tank and fuel cock	M6 × 1.0	2	7	0.7	5.1
	Fuel tank and fuel tank bracket	M6 × 1.0	4	7	0.7	5.1
	Front fender mounting	M6 × 1.0	4	7	0.7	5.1
	Rear fender mounting	M6 × 1.0	4	7	0.7	5.1
	Flap guard mounting	M6 × 1.0	2	4	0.4	2.9
	Left side cover mounting	M6 × 1.0	2	7	0.7	5.1
	Seat mounting	M6 × 1.0	2	7	0.7	5.1
	Battery cover and battery box	M6 × 1.0	1	5	0.5	3.6
	Battery box and frame	M6 × 1.0	2	7	0.7	5.1

TIP

△ - marked portion shall be checked for torque tightening after break-in or before each ride.

TT-R125LE

Item		Standard	Limit
Steering system:			
Steering bearing type	(upper)	Angular bearing	----
	(lower)	Taper roller bearing	----
Front suspension:			
Front fork travel		180 mm (7.09 in)	---
Fork spring free length		469.4 mm (18. 46 in)	463.9 mm (18.23 in)
Spring rate, STD		K = 3.20 N/mm (0.330 kg/mm, 18.5 lb/in)	---
Optional spring/spacer		No	---
Oil capacity		164 cm^3 (5.77 Imp oz, 5.54 US oz)	---
Oil level		134 mm (5.27 in)	---
Oil grade		Fork oil 10W or equivalent	---
Inner tube outer diameter		31 mm (1.22 in)	---
Front fork top end		Zero mm (Zero in)	---
Rear suspension:			
Shock absorber travel		65 mm (2.56 in)	---
Spring free length		170.5 mm (6.71 in)	---
Fitting length		160.5 mm (6.32 in)	---
Spring rate, STD		K = 61.8 N/mm (6.3 kg/mm, 352 lb/in)	---
Optional spring		No	---
Enclosed gas pressure		1,200 kPa (12 kg/cm^2, 171 psi)	---
Wheel:			
Front wheel type		Spoke wheel	---
Rear wheel type		Spoke wheel	---
Front rim size/material		19 × 1.40/Steel	---
Rear rim size/material		16 × 1.60/Steel	---
Rim run out limit:			
Radial		---	2.0 mm (0.08 in)
Lateral		---	2.0 mm (0.08 in)

Item	Standard	Limit
Drive chain:		
Type/manufacturer	DID428HD/DAIDO	---
Number of links	122 links	---
Chain slack	35 ~ 50 mm (1.4 ~ 2.0 in)	---
Chain length (15 links)	---	194.3 mm (7.65 in)
Front disc brake:		
Disc outside dia. × Thickness	220 × 3.0 mm (8.66 × 0.12 in)	220 × 2.5 mm (8.66 × 0.10 in)
Deflection limit	----	0.15 mm (0.006 in)
Pad thickness	4.0 mm (0.16 in)	0.8 mm (0.03 in)
Master cylinder inside dia.	11.0 mm (0.433 in)	----
Caliper cylinder inside dia.	22.22 mm (0.875 in) × 2	----
Brake fluid type	DOT #4	----
Rear drum brake:		
Drum brake type	Leading, trailing	----
Drum inside diameter	110 mm (4.33 in)	111 mm (4.37 in)
Lining thickness	4.0 mm (0.16 in)	2.0 mm (0.08 in)
Shoe spring free length	50.5 mm (1.99 in)	----
Brake lever and brake pedal:		
Brake lever free play (lever end)	2 ~ 5 mm (0.08 ~ 0.20 in)	----
Brake pedal position (vertical height below footrest top)	1 mm (0.04 in)	----
Brake pedal free play	20 ~ 30 mm (0.79 ~ 1.18 in)	----
Clutch lever free play (lever end)	10 ~15 mm (0.39 ~ 0.59 in)	----
Throttle grip free play	3 ~ 5 mm (0.12 ~ 0.20 in)	----

	Part to be tightened	Thread size	Q'ty	Tightening torque		
				Nm	m•kg	ft•lb
△	Upper bracket and inner tube	M8 × 1.25	2	25	2.5	18
△	Lower bracket and inner tube	M10 × 1.25	2	60	6.0	43
△	Upper bracket and steering stem	M22 × 1.0	1	110	11.0	80
△	Handlebar upper holder and upper bracket	M8 × 1.25	4	23	2.3	17
	Steering stem and ring nut	M25 × 1.0	1	Refer to TIP.		
	Front fork and cap bolt	M25 × 1.0	2	23	2.3	17
	Front fork and damper rod	M10 × 1.0	2	23	2.3	17
	Front fork and brake cable hose holder	M6 × 1.0	1	7	0.7	5.1
	Number plate	M6 × 1.0	1	7	0.7	5.1
	Starter knob	M11 × 1.25	1	1	0.1	0.7
	Starter knob stay	M6 × 1.0	2	10	1.0	7.2
	Grip cap upper and lower	M5 × 0.8	2	4	0.4	2.9
	Throttle cable cap	M4 × 0.7	2	4	0.4	2.9
△	Front brake master cylinder	M6 × 1.0	2	9	0.9	6.5
	Front brake master cylinder cap	M4 × 0.7	2	2	0.2	1.4
	Brake lever mounting (bolt)	M6 × 1.0	1	7	0.7	5.1
	Brake lever mounting (nut)	M6 × 1.0	1	7	0.7	5.1
	Brake lever adjuster and locknut	M6 × 0.75	1	4	0.4	2.9
	Clutch lever mounting (bolt)	M6 × 1.0	1	7	0.7	5.1
	Clutch lever mounting (nut)	M6 × 1.0	1	7	0.7	5.1
	Clutch lever holder	M5 × 0.8	2	4	0.4	2.9
△	Front brake master cylinder and joint	M10 × 1.25	1	26	2.6	19
△	Front brake hose and joint	M10 × 1.25	1	14	1.4	10
△	Front brake hose union bolt	M10 × 1.25	1	26	2.6	19
△	Front brake caliper and front fork	M8 × 1.25	2	32	3.2	24
△	Brake caliper support bolt	M8 × 1.25	1	22	2.2	16
△	Front brake caliper and bleed screw	M7 × 1.0	1	6	0.6	4.3
△	Front wheel axle and axle nut	M12 × 1.25	1	45	4.5	32
△	Front brake disc and wheel hub	M6 × 1.0	4	12	1.2	8.7
△	Rear wheel axle and axle nut	M12 × 1.25	1	60	6.0	43
△	Rear brake camshaft lever and camshaft	M6 × 1.0	1	10	1.0	7.2
	Brake pedal mounting	M10 × 1.25	1	30	3.0	22
	Brake pedal position locknut	M6 × 1.0	1	7	0.7	5.1
△	Front wheel nipple (spoke)	-	36	2	0.2	1.4
△	Rear wheel nipple (spoke)	-	36	3	0.3	2.2

TIP

1. First, tighten the ring nut approximately 38 Nm (3.8 m • kg, 27 ft • lb) by using the ring nut wrench and turn the steering right and left a few times; then loosen the ring nut one turn.
2. Retighten the ring nut 20 Nm (2.0 m • kg, 14 ft • lb).

	Part to be tightened	Thread size	Q'ty	Tightening torque Nm	m•kg	ft•lb
	Bead stopper	M8 × 1.25	1	3	0.3	2.2
△	Driven sprocket (nut)	M10 × 1.25	4	43	4.3	31
	Driven sprocket (stud)	M10 × 1.25	4	30	3.0	22
	Sidestand mounting (nut)	M10 × 1.25	1	44	4.4	32
	Engine mounting:					
△	Engine bracket (front) and frame	M8 × 1.25	2	40	4.0	29
△	Engine bracket (front) and engine	M8 × 1.25	2	40	4.0	29
△	Engine bracket (upper) and frame	M8 × 1.25	2	40	4.0	29
△	Engine bracket (upper) and cylinder head	M8 × 1.25	1	40	4.0	29
△	Engine and frame (rear)	M8 × 1.25	2	40	4.0	29
△	Pivot shaft and nut	M12 × 1.25	1	53	5.3	38
△	Relay arm and swingarm	M12 × 1.25	1	53	5.3	38
△	Relay arm and connecting arm	M10 × 1.25	1	35	3.5	25
△	Connecting arm and frame	M10 × 1.25	1	35	3.5	25
△	Rear shock absorber assembly and frame	M12 × 1.25	1	53	5.3	38
△	Rear shock absorber assembly and relay arm	M10 × 1.25	1	35	3.5	25
	Rear shock absorber and locknut (preload)	M46 × 1.5	1	42	4.2	30
	Drive chain tensioner (upper)	M8 × 1.25	1	23	2.3	17
	Drive chain tensioner (lower)	M6 × 1.0	1	7	0.7	5.1
	Drive chain support and swingarm	M6 × 1.0	2	7	0.7	5.1
	Drive chain guide and swingarm	M6 × 1.0	2	7	0.7	5.1
	Drive chain guard mounting	M6 × 1.0	2	7	0.7	5.1
	Fuel tank mounting	M6 × 1.0	2	10	1.0	7.2
△	Fuel tank and fuel cock	M6 × 1.0	2	7	0.7	5.1
△	Fuel tank and fuel tank bracket	M6 × 1.0	4	7	0.7	5.1
	Front fender mounting	M6 × 1.0	4	7	0.7	5.1
	Rear fender mounting	M6 × 1.0	4	7	0.7	5.1
	Flap guard mounting	M6 × 1.0	2	4	0.4	2.9
	Left side cover mounting	M6 × 1.0	2	7	0.7	5.1
	Seat mounting	M6 × 1.0	2	7	0.7	5.1
	Battery cover and battery box	M6 × 1.0	1	5	0.5	3.6
	Battery box and frame	M6 × 1.0	2	7	0.7	5.1

TIP

△ - marked portion shall be checked for torque tightening after break-in or before each ride.

EC212300

ELECTRICAL

Item	Standard	Limit
CDI:		
Magneto-model (stator)/manufacturer	F1B2/MORIC	---
Source coil resistance (color)	688 ~ 1,032 Ω at 20 °C (68 °F) (Brown – Green)	---
Pickup coil resistance (color)	248 ~ 372 Ω at 20 °C (68 °F) (Red – White)	---
CDI unit-model/manufacturer	5HP-00/MORIC	---
Ignition coil:		
Model/manufacturer	2JN/MORIC	---
Minimum spark gap	6 mm (0.24 in)	---
Primary winding resistance	0.18 ~ 0.28 Ω at 20 °C (68 °F)	---
Secondary winding resistance	6.3 ~ 9.5 kΩ at 20 °C (68 °F)	---
Spark plug cap:		
Type	Resin	---
Resistance	10 kΩ at 20 °C (68 °F)	---
Charging system:		
System type	CDI magneto	---
Charging coil resistance (color)	0.64 ~ 0.96 Ω at 20 °C (68 °F) (White – Black)	---
Lighting coil resistance (color)	0.52 ~ 0.78 Ω at 20 °C (68 °F) (Yellow – Black)	---
Rectfier/regulator:		
Regulator type	Semiconductor short circuit	---
Model/manufacture	TWBA-11/DENSO	---
No-load regulated voltage	14.0 ~ 15.0 V	---
Rectifier capacity	8 A	---
Electric starting system:		
Type	Constant mesh	---
Starter motor:		
Model/manufacturer	1B2/SHY	---
Operation voltage	12 V	---
Output	0.40 kW	---
Armature coil resistance	0.017 ~ 0.021 Ω at 20 °C (68 °F)	---
Brush overall length	10 mm (0.40 in)	3.5 mm (0.14 in)
Brush quantity	2 pcs.	---
Spring force	5.52 ~ 8.28 N (560 ~ 840 g, 19.8 ~ 29.7 oz)	---
Commutator diameter	22 mm (0.9 in)	21 mm (0.8 in)
Mica undercut (depth)	1.5 mm (0.06 in)	---

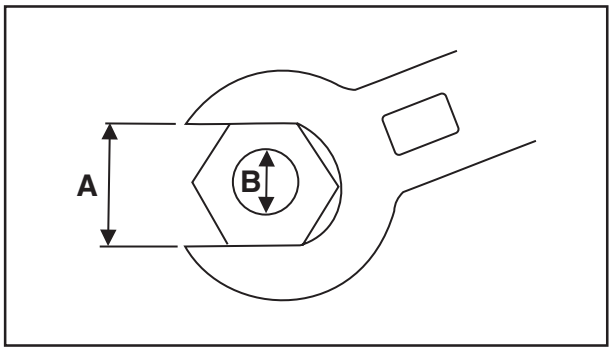
Item	Standard	Limit
Starter relay:		
Model/manufacturer	MS5F-751/JIDECO	---
Amperage rating	180 A	---
Coil winding resistance	4.2 ~ 4.6 Ω at 20 °C (68 °F)	---
Starting circuit cut-off relay:		
Model/manufacturer	ACM33221 M06/Nais	---
Coil winding resistance	75.69 ~ 92.51 Ω at 20 °C (68 °F)	---
Fuse (amperage × quantity):		
Main fuse	10 A × 1	---
Reserve fuse	10 A × 1	---

Part to be tightened	Thread size	Q'ty	Tightening torque		
			Nm	m•kg	ft•lb
Pickup coil	M6 × 1.0	2	10	1.0	7.2
Neutral switch	M10 × 1.25	1	18	1.8	13
Stator	M6 × 1.0	3	10	1.0	7.2
Rotor	M12 × 1.25	1	80	8.0	58
Ignition coil	M6 × 1.0	2	7	0.7	5.1
Starter motor	M6 × 1.0	2	10	1.0	7.2

EC220001

GENERAL TORQUE SPECIFICATIONS

This chart specifies torque for standard fasteners with standard I.S.O. pitch threads. Torque specifications for special components or assemblies are included in the applicable sections of this book. To avoid warpage, tighten multi-fastener assemblies in a crisscross fashion, in progressive stages, until full torque is reached. Unless otherwise specified, torque specifications call for clean, dry threads. Components should be at room temperature.



A: Distance between flats
B: Outside thread diameter

A (Nut)	B (Bolt)	TORQUE SPECIFICATION		
		Nm	m•kg	ft•lb
10 mm	6 mm	6	0.6	4.3
12 mm	8 mm	15	1.5	11
14 mm	10 mm	30	3.0	22
17 mm	12 mm	55	5.5	40
19 mm	14 mm	85	8.5	61
22 mm	16 mm	130	13	94

EC230000

DEFINITION OF UNITS

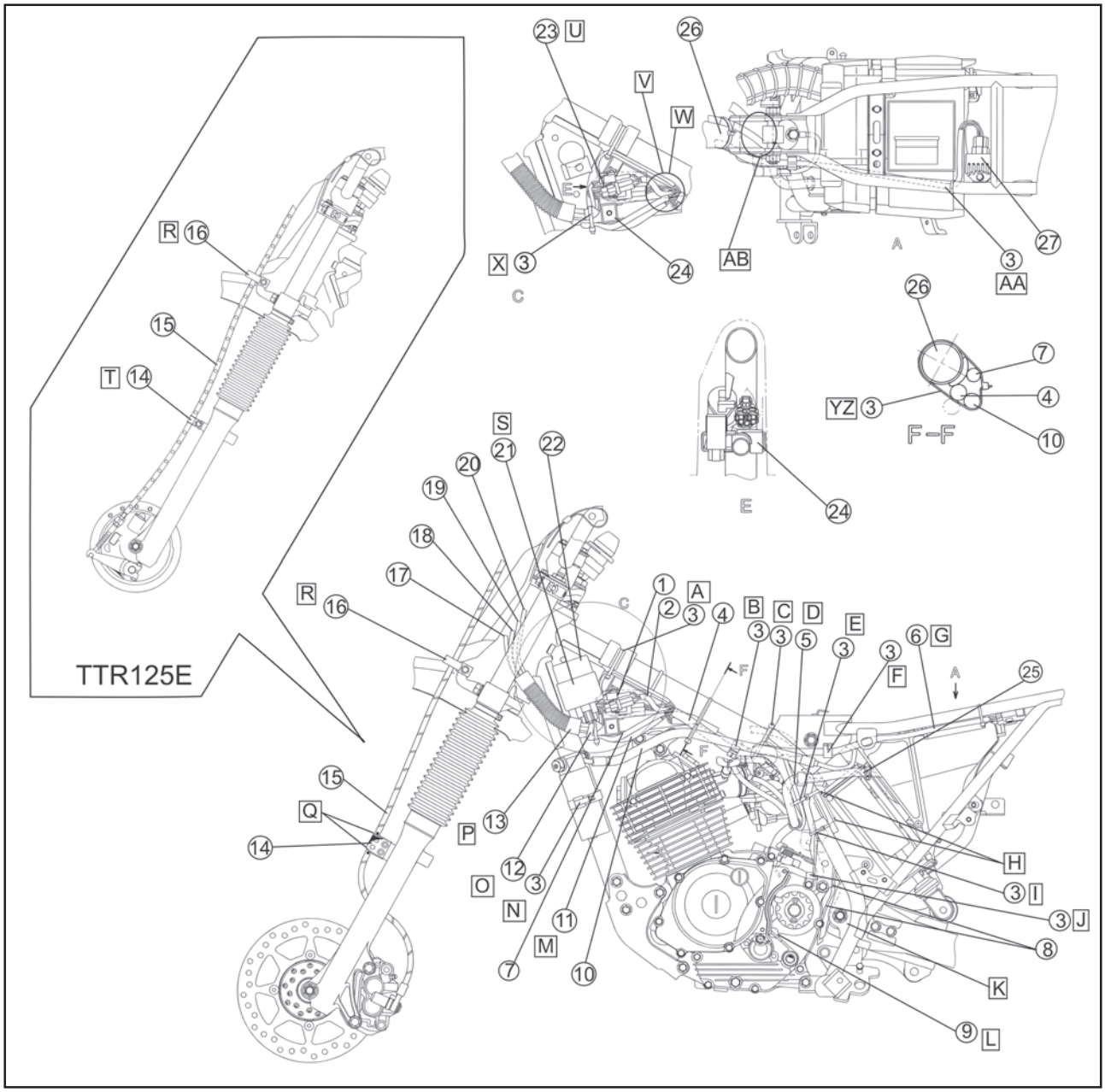
Unit	Read	Definition	Measure
mm	millimeter	10^{-3} meter	Length
cm	centimeter	10^{-2} meter	Length
kg	kilogram	10^{3} gram	Weight
N	Newton	1 kg × m/sec^2	Force
Nm	Newton meter	N × m	Torque
m • kg	Meter kilogram	m × kg	Torque
Pa	Pascal	N/m^2	Pressure
N/mm	Newton per millimeter	N/mm	Spring rate
L	Liter	---	Volume or capacity
cm^3	Cubic centimeter	---	Volume or capacity
r/min	Revolution per minute	---	Engine speed

EC240000

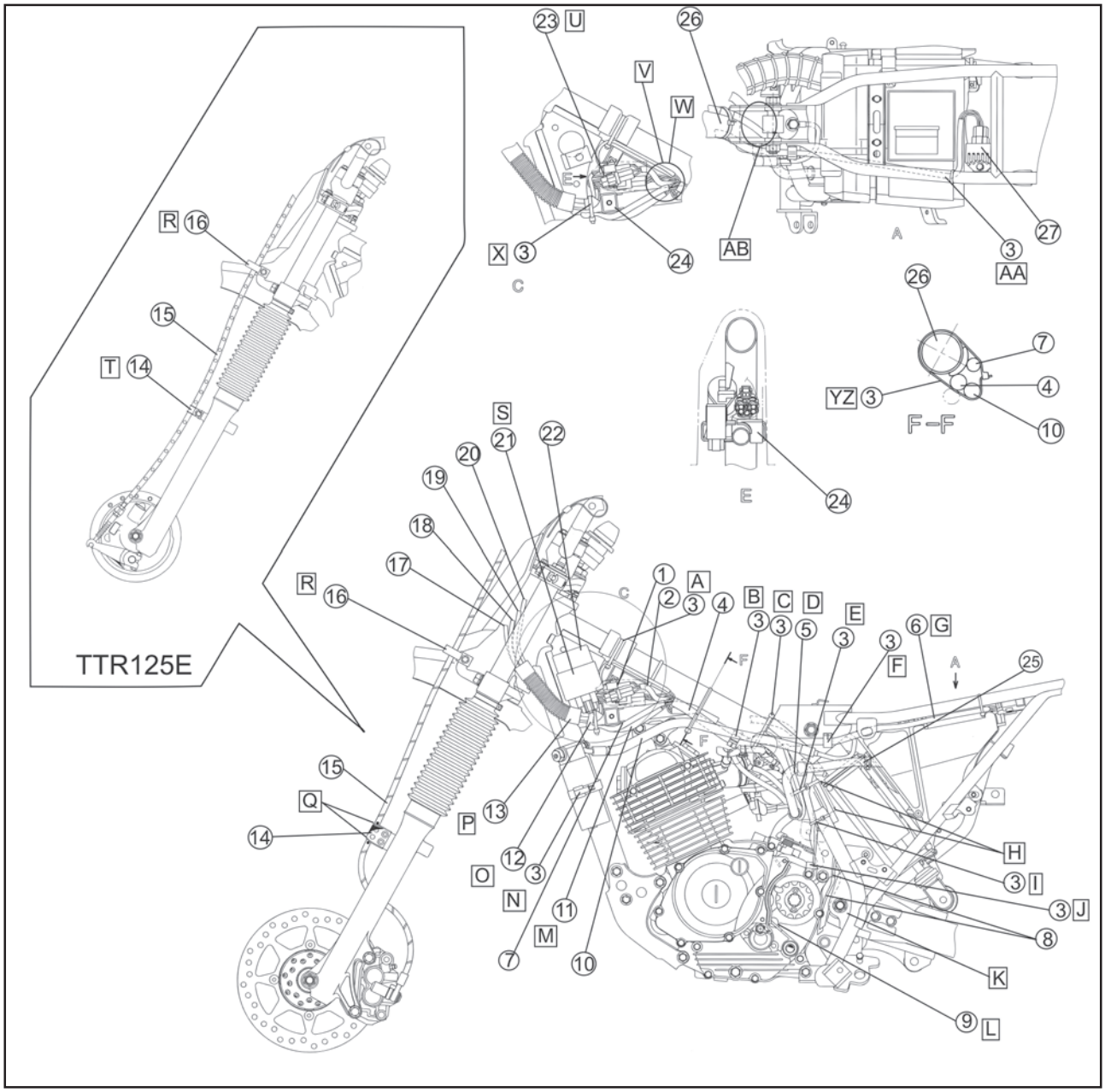
CABLE ROUTING DIAGRAM

① Ground lead
② Primary coil lead
③ Clamp
④ Wire harness
⑤ Starter relay lead
⑥ Rectifier/regulator lead
⑦ CDI magneto lead
⑧ Air vent hose
⑨ Neutral switch lead
⑩ Rear shock absorber assembly sub-tank hose (TT-R125LE only)
⑪ Starting circuit cut-off relay lead
⑫ CDI unit lead
⑬ Corrugated tube
⑭ Brake hose holder (Brake cable holder for the TT-R125E)
⑮ Brake hose (Brake cable for the TT-R125E)
⑯ Cable guide
⑰ Main switch lead
⑱ Engine stop switch lead
⑲ Clutch switch lead
⑳ Start switch lead
㉑ CDI unit band
㉒ CDI unit
㉓ Connector cover
㉔ Rubber cover
㉕ Engine oil breather hose
㉖ Frame
㉗ Rectifier/regulator

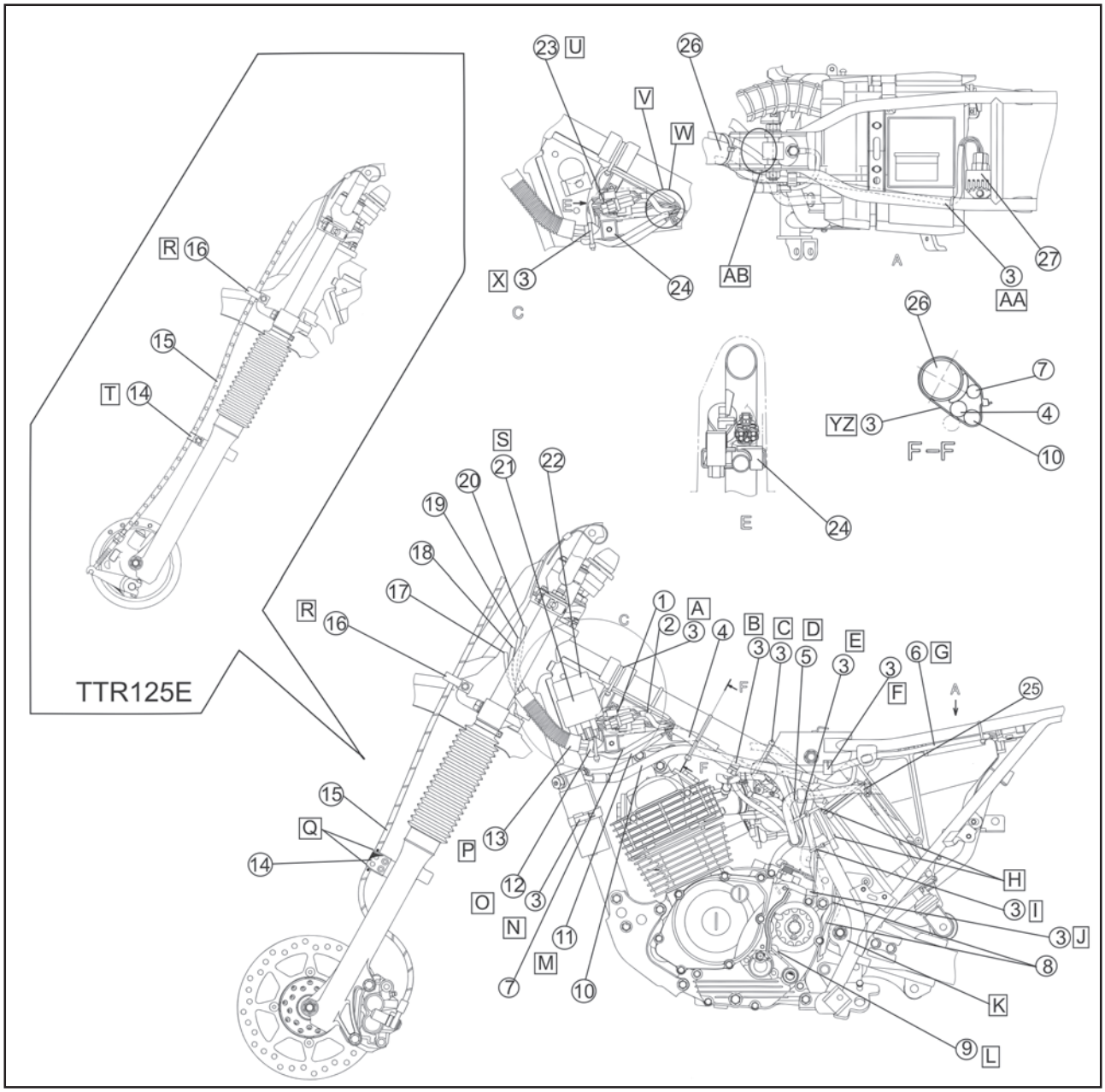
[A] Fasten the primary coil lead and ground lead.
[B] Fasten the wire harness at its tape.
[C] Fasten the wire harness and CDI magneto lead in front of the rear shock absorber assembly bracket at the protecting tube for the CDI magneto lead.
[D] After fastening the starter relay lead, pass it on the left of the chassis.



[E] Fasten the CDI magneto lead and starter relay lead.
[F] Fasten the wire harness.
[G] Pass the rectifier/regulator lead between the frame and air filter case.
[H] Do not allow the CDI magneto lead to slacken except between the two plastic locking ties.
[I] Fasten the CDI magneto lead over the engine bracket (rear).
[J] Fasten the CDI magneto lead.
[K] Pass the air vent hoses between the engine and swingam.
[L] Fit the neutral switch lead into the groove in the crankcase cover.
[M] Pass the starting circuit cut-off relay lead under the frame and at the right of the chassis.
[N] Fasten the rear shock absorber assemby sub-tank. (TT-R125LE only).
[O] Pass the CDI unit lead on the outside of the main switch lead, engine stop switch lead, clutch switch lead and start switch lead.
[P] After fastening the start switch lead, clutch switch lead, engine stop switch lead and main switch lead, push their corrugated tube against the CDI unit coupler.
[Q] Fasten the brake hose between the paint marks.
[R] Pass the brake hose (brake cable for the TT-R125E) through the cable guide.
[S] Fit the CDI unit band over the CDI unit bracket till it stops.
[T] Fasten the brake cable.



[U] After connecting the main switch coupler, engine stop switch coupler, clutch switch coupler and start switch coupler, put a connector cover on the couplers and push them in at the rubber cover end.
[V] Pass the wire harness on the oustide of the main switch coupler.
[W] Do not allow the primary coil lead to slacken where it is bare of the protecting tube.
[X] Fasten the CDI unit lead and starting circuit cut-off relay lead with a plastic locking tie at the tape holding the main switch lead, engine stop switch lead, clutch switch lead, and start switch lead together.
[Y] Position the CDI magneto lead, wire harness and rear shock absorber assembly sub-tank hose (TT-R125LE only) as shown.
[Z] Fasten the wire harness, CDI magneto lead and rear shock absorber assembly sub-tank hose (TT-R125LE only) at the protecting tube for the CDI magneto lead.
[A A] Fasten the rectifier/ regulator lead as shown.
[A B] Do not allow the CDI magneto lead to slacken.



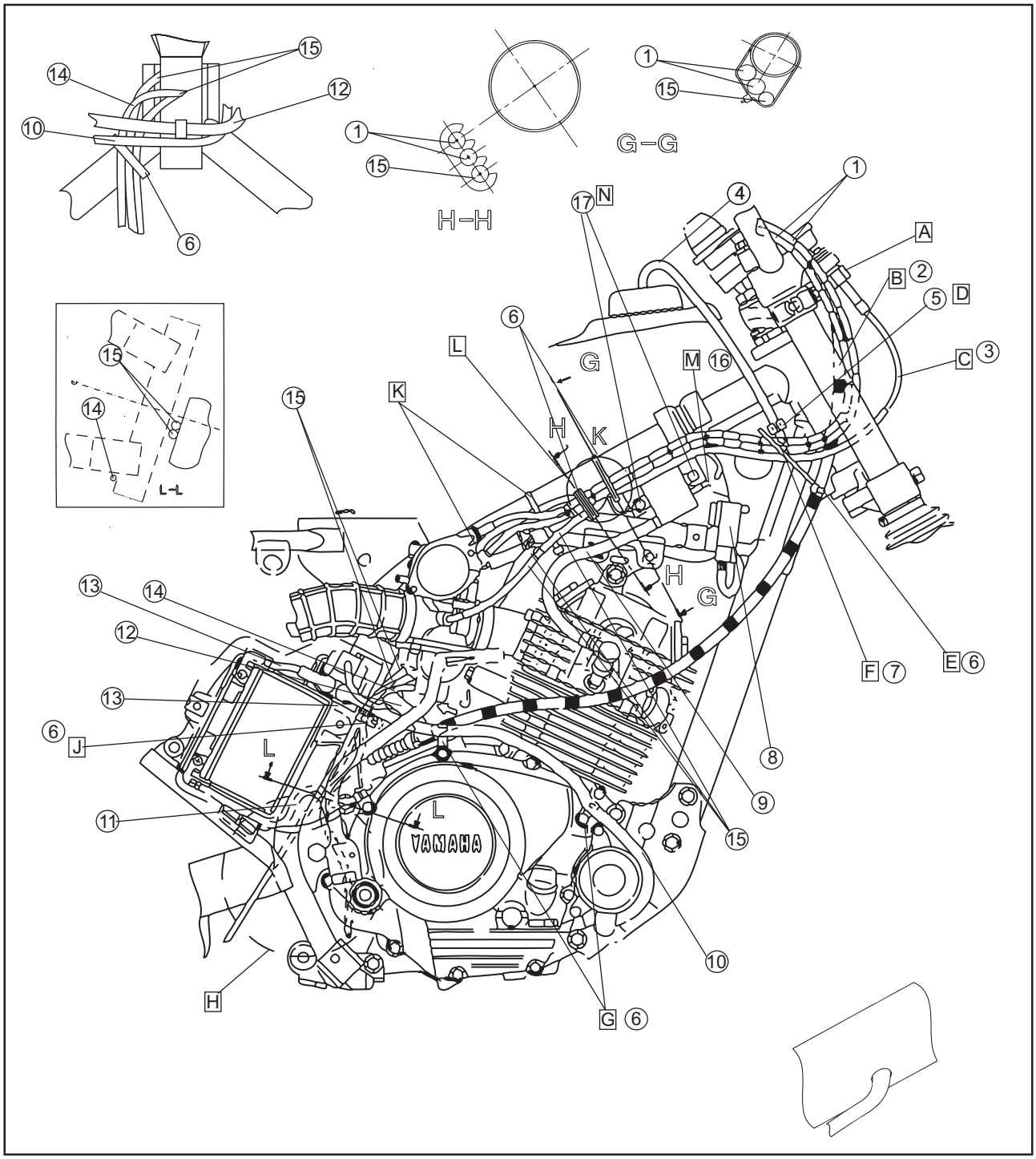
① Throttle cable
② Clutch cable
③ Starter cable
④ Fuel tank breather hose
⑤ Hose guide
⑥ Clamp
⑦ Cable guide
⑧ Starting circuit cut-off relay
⑨ Spark plug lead
⑩ Starter motor lead
⑪ Negative battery lead
⑫ Engine oil breather hose
⑬ Positive battery lead
⑭ Overflow hose
⑮ Air vent hose
⑯ Primary coil lead
⑰ Ground lead

[A] Tighten the starter choke nut while taking care not to twist the starter cable.

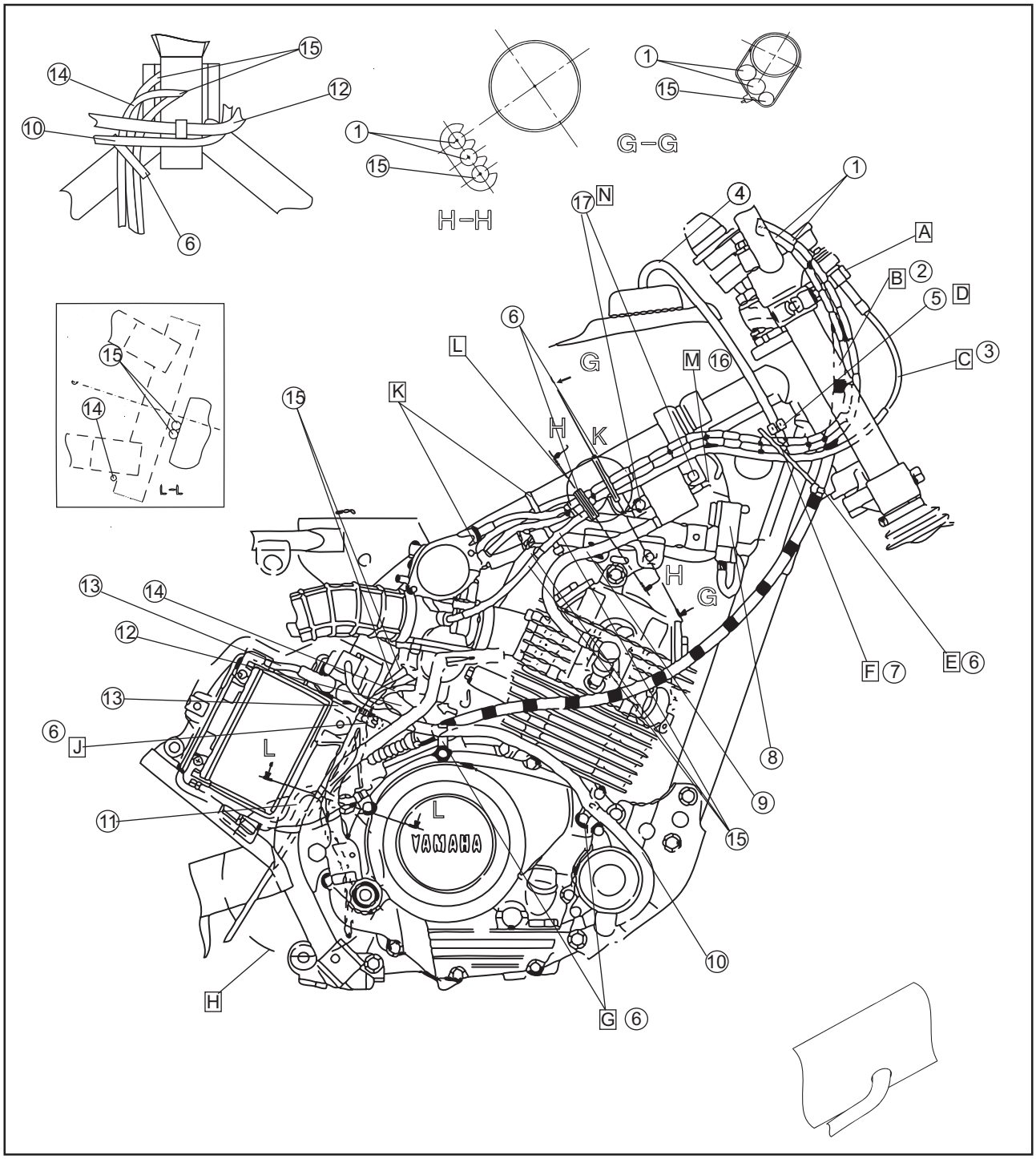
[B] Pass the clutch cable on the inside of the throttle cable and starter cable.

[C] Pass the starter cable so that it is not twisted.

[D] Pass the fuel tank breather hose through the hose guide.

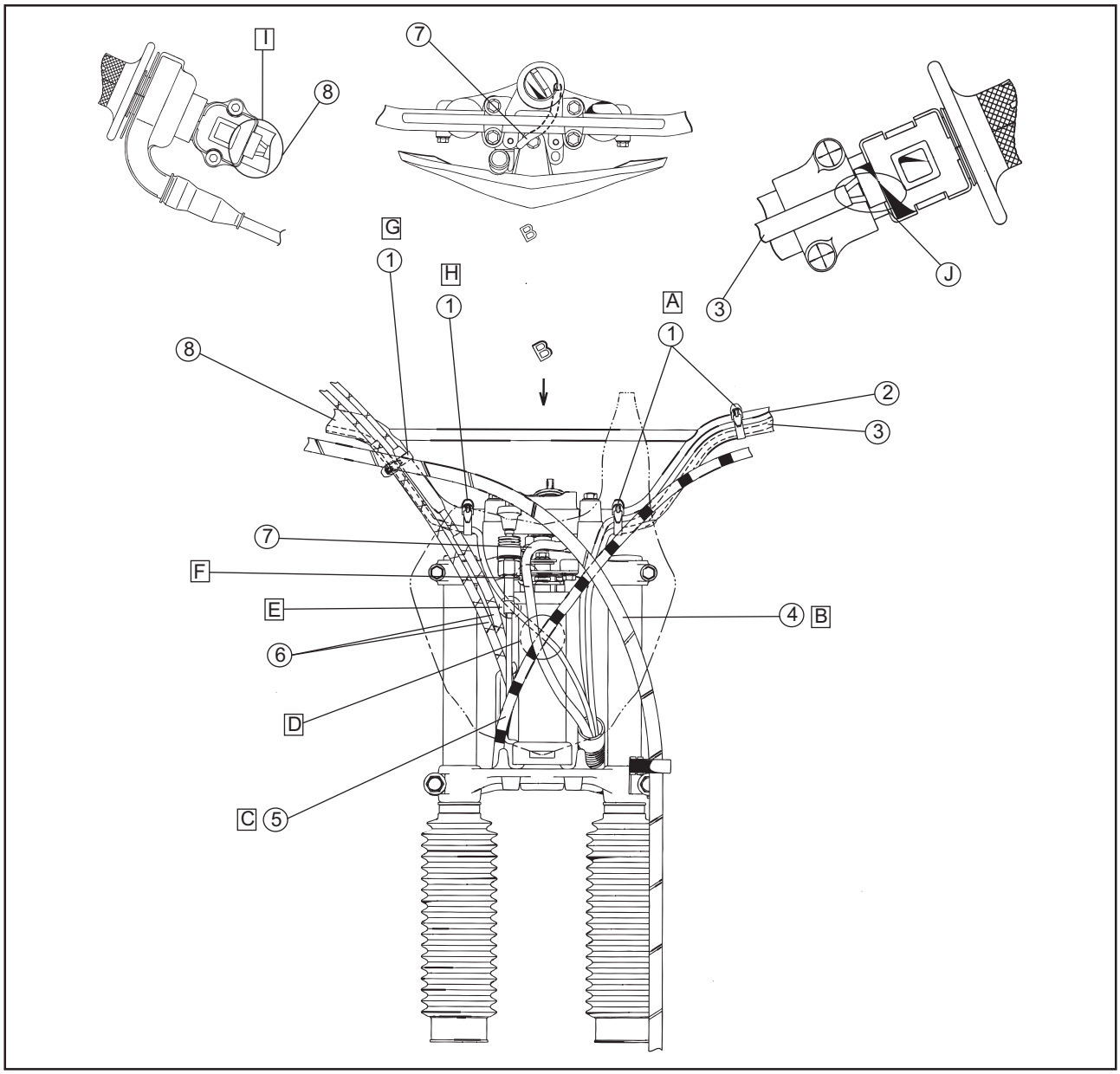


[E] Fasten the clutch cable with the paint in the cable guide bottom recess.
[F] Pass the throttle cable and starter cable through the cable guide.
[G] Fasten the starter motor lead.
[H] Pass the air vent hose between the swingarm and the frame, and the overflow hose between the engine and the swingarm.
[I] Pass the negative battery lead on the inside of the frame as shown.
[J] Fasten the overflow hose and air vent hoses to 2 clicks.
[K] After fastening the starter cable, push it against the starter plunger.
[L] Put the tip of the air vent hose into the frame.
[M] Install the primary coil terminal (orange) to the ignition coil.
[N] Fasten the ground lead together with the ignition coil.



① Clamp
② Clutch switch lead
③ Engine stop switch lead
④ Brake hose (Brake cable for the TT-R125E)
⑤ Clutch cable
⑥ Throttle cable
⑦ Main switch lead
⑧ Start switch lead

[A] Fasten the clutch switch lead and engine stop switch lead to 3 clicks.
[B] Pass the brake hose (brake cable for the TT-R125E) in front of the number plate and through the cable guide.
[C] Pass the clutch cable in back of the number plate.
[D] Starting at the forepart, pass the main switch lead, clutch cable and start switch lead in that order.
[E] Pass the start switch lead in back of the starter cable.
[F] Pass the main switch lead on the right of the number plate stay.
[G] Fasten the throttle cable adjuster cover and start switch lead with a plastic locking tie ends downward.
[H] Fasten the start switch lead to 3 clicks.
[I] Pass the start switch lead in the middle of the brake master cylinder bracket. (TT-R125LE only)
[J] Pass the engine stop switch lead in the middle of the clutch holder.



REGULAR INSPECTION AND ADJUSTMENTS PERIODIC MAINTENANCE CHART FOR THE EMISSION CONTROL SYSTEM

TIP

From 18 months or 4,200 mi (7,000 km) or 210 hours, repeat the maintenance intervals starting from 6 months or 1,800 mi (3,000 km) or 90 hours.

Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.

For TT-Rs not equipped with an odometer or an hour meter, follow the month maintenance intervals.

For TT-Rs equipped with an odometer or an hour meter, follow the mi (km) or hours maintenance intervals.

Hovewer, keep in mind that if the TT-R isn´t used for a long period of time, the month maintenance intervals should be followed.

Nº		ITEM	CHECKS AND MAINTENANCE JOBS	Whichever comer first		INITIAL	ODOMETER READINGS	
					month	1	6	12
					mi (km)	600 (1,000)	1,800 (3,000)	3,000 (5,000)
					hours	30	90	150
1	*	Fuel line	Check fuel hoses for cracks or damage. Replace if necessary.				✓	✓
2		Spark plug	Check condition Adjust gap and clean.				✓	✓
3	*	Valve clearence	Check and adjust valve clearance when engine is cold.					✓
4	*	Air filter element	Clean with solvent. Replace if necessary.				✓	✓
5	*	Breather system	Check ventilation hose for cracks or damage. Replace if necessary.			✓	✓	✓
6	*	Carburetor	Check engine idling speed an starter operation. Adjust if necessary.			✓	✓	✓
7		Exhaust system	Check for leakage. Tighten if necessary. Replace gasket if necessary.				✓	✓
8		Engine oil	Change (warm engine before draining).			✓	✓	✓

GENERAL MAINTENANCE AND LUBRICATION CHART

TIP

From 18 months or 4,200 mi (7,000 km) or 210 hours, repeat the maintenance intervals starting from 6 months or 1,800 mi (3,000 km) or 90 hours.

Items marked with an asterisk should be performed by a Yamaha dealer as they require special tools, data and technical skills.

For TT-Rs not equipped with an odometer or an hour meter, follow the month maintenance intervals.

For TT-Rs equipped with an odometer or an hour meter, follow the mi (km) or hours maintenance intervals.

Hovewer, keep in mind that if the TT-R isn´t used for a long period of time, the month maintenance intervals should be followed.

Nº		ITEM	CHECKS AND MAINTENANCE JOBS	Whichever comer first	INITIAL	ODOMETER READINGS	
				month	1	6	12
				mi (km)	600 (1,000)	1,800 (3,000)	3,000 (5,000)
				hours	30	90	150
1		Clutch	Check operation Adjust or replace cable.		✓	✓	✓
2	*	Spark arrester	Clean.				✓
3	*	Front brake	Check operation. Adjust brake lever free play and replace brake shoes if necessary. (TT -R125E) Check operation, fluid level, and for fluid leakage. Replace brake pads if necessary. (TT-R125LE)		✓ ✓	✓ ✓	✓ ✓
			Replace brake fluid. (TT-R125LE)		**Every 1 year**		
4	*	Rear brake	Check operation. Adjust brake pedal free play and replace brake shoes if necessary		✓	✓	✓
5	*	Brake hose (TT-R125LE)	Check for clacks or damage.			✓	✓
			Replace		**Every 4 year**		
6	*	Wheels	Check runout, spoke tightness and for damage. Tighten spokes if necessary.		✓	✓	✓
7	*	Tires	Check tread depth and for damage. Replace if necessary. Check air pressure. Correct if necessary.			✓	✓
8	*	Wheel bearings	Check bearings for smooth operation. Replace if necessary.			✓	✓
9	*	Swingarm	Check swingarm pivoting point for play. Correct if necessary. Lubricate with lithium soap based grease.		✓	✓	✓
10		Drive chain	Check chain slack / alignment and condition. Adjust and lubricate chain.		**Every ride**		

Nº		ITEM	CHECKS AND MAINTENANCE JOBS	Whichever comer first		INITIAL	ODOMETER READINGS	
					month	1	6	12
					mi (km)	600 (1,000)	1,800 (3,000)	3,000 (5,000)
					hours	30	90	150
11	*	Steering bearings	Check bearing assemblies for looseness. Lubricate with litium soap based grease every 2,400 mi (4,000 km) or 120 hours or 12 months (whichever comes first).			✓		✓
12		Brake and clutch lever pivot shafts	Apply lithium soap based grease lightly.			✓	✓	✓
13		Brake pedal pivot shafts	Apply lithium soap based grease lightly.			✓	✓	✓
14		Sidestand pivot	Check operation. Apply lithium soap based grease lightly.			✓		✓
15	*	Front fork	Check operation and for oil leakage. Replace if necessary.				✓	✓
16	*	Shock absorber assembly	Check operation and for oil leakage. Replace if necessary.				✓	✓
17	*	Control cabes	Apply Yamaha chain and cable lube or engine oil 10W-30 thoroughly.			✓	✓	✓
18	*	Throttle grip housing and cable	Check operation and free play. Adjust the throttle cable free play if necessary. Lubricate the throttle grip housing and cable.			✓	✓	✓
19	*	Chassis fasteners	Check all chassis fitting and fasteners. Correct if necessary.			✓	✓	✓
20		Battery	Check terminal for looseness and corrosion.					✓

TIP

The air filter needs more frequent service if you are riding in unusually wet or dusty areas.

Hydraulic brake service (TT-R125LE)

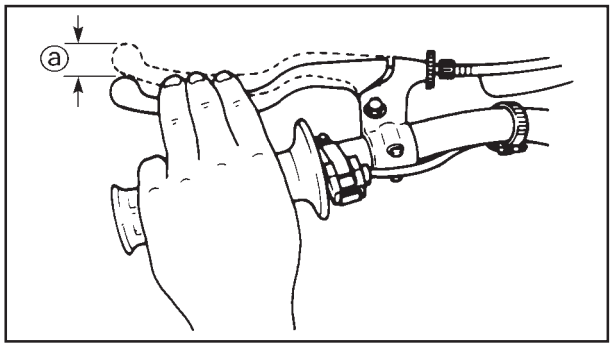
- After disassembling the brake master cylinders and calipers, always change the fluid. Regulary check the brake fluid levels and fill the reservoirs as required.
- Every two years replace the internal components of the brake master cylinders and calipers, and change the brake fluid.
- Replace the brake hoses every four years and if cracked or damaged.

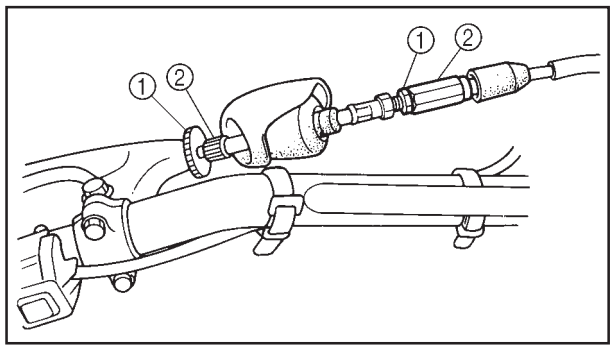
PRE-OPERATION INSPECTION AND MAINTENANCE

Before riding for break-in operation or practice, make sure the machine is in good operating condition. Before using this machine, check the following points.

GENERAL INSPECTION AND MAINTENANCE

Item	Routine	Page
Fuel	Check that a fresh gasoline is filled in the fuel tank. Check the fuel line for leakage.	P.1-12
Engine oil	Check that the oil level is correct. Check the crankcase for leakage.	P.3-8 ~ 11
Gear shifter and clutch	Check that gears can be shifted correctly in order and that the clutch operates smoothly.	P.3-5
Throttle grip/housing	Check that the throttle grip operation and free play are correctly adjusted. Lubricate the throttle grip and housing, if necessary.	P.3-5 ~ 6
Brakes	Check the play of front and rear brake and effect of front and rear brake. Check fluid level and leakage. (TT-R125LE)	P.3-16 ~ 21
Drive chain	Check chain slack and alignment. Check that the chain is lubricated properly.	P.3-22 ~ 23
Wheels	Check for excessive wear and tire pressure. Check for loose spokes and have no excessive play.	P.3-28 ~ 29
Steering	Check that the handlebar can be turned smoothly and have no excessive play.	P.3-29 ~ 33
Front forks and rear shock absorber assembly	Check that they operate smoothly and there is no oil leakage.	P.3-24 ~ 27
Cables (wires)	Check that the clutch and throttle cables move smoothly. Check that they are not caught when the handlebars are turned or when the front forks travel up and down.	---
Muffler	Check that the muffler is tightly mounted and has no cracks.	P.4-2
Sprocket	Check that the driven sprocket tightening nut is not loose.	P.3-21
Lubrication	Check for smooth operation. Lubricate if necessary.	P.3-34
Bolts and nuts	Check the chassis and engine for loose bolts and nuts.	-
Lead connectors	Check that the CDI magneto, CDI unit, and ignition coil are connected tightly.	P.1-5





EC350000

ENGINE

CLUTCH ADJUSTMENT

1. Check:
   - Clutch lever free play ⓐ

Out of specification → Adjust.

Clutch lever free play ⓐ:
10 ~ 15 mm (0.39 ~ 0.59 in)

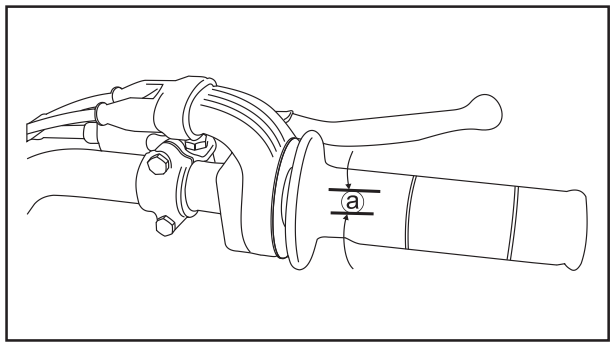
2. Adjust:
   - Clutch lever free play

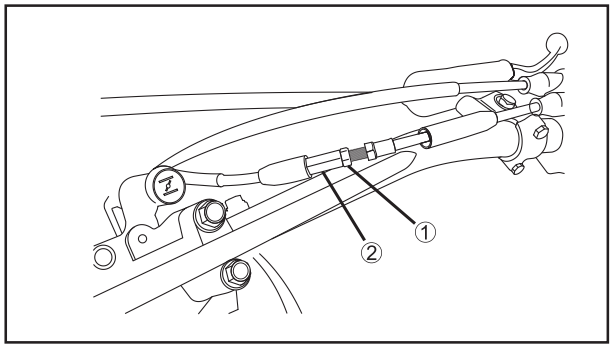
Clutch lever free play adjustment steps:

- Loosen the locknut ①.
- Turn the adjuster ② until free play ⓐ is within the specified limits.
- Tighten the locknut.

TIP

- Make minute adjustment on the lever side.
- After adjustment, check proper operation of clutch lever.





EC35A001

THROTTLE CABLE ADJUSTMENT

1. Check:
   - Throttle grip free play ⓐ
     Out of specification → Adjust.

Throttle grip free play ⓐ:
3 ~ 5 mm (0.12 ~ 0.20 in)

2. Adjust:
   - Throttle grip free play

Throttle grip free play adjustment steps:

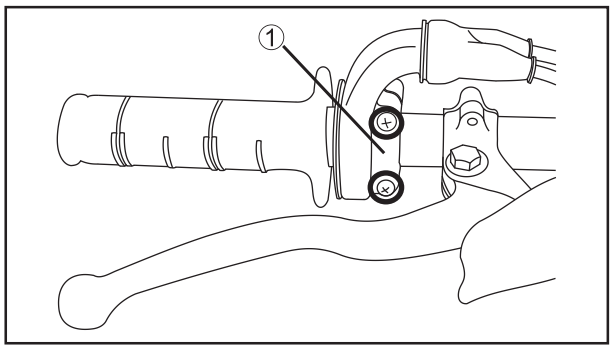
- Loosen the locknut ①.
- Turn the adjuster ② until the specified free play is obtained.
- Tighten the locknut.

TIP

Before adjusting the throttle cable free play, the engine idle speed should be adjusted.

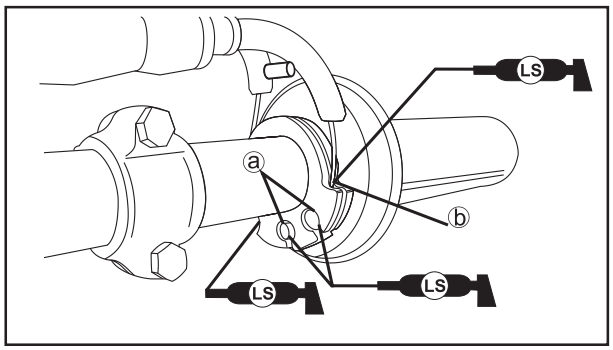
⚠ WARNING

After adjusting, turn the handlebar to right and left and make sure that the engine idling does not run faster.



THROTTLE LUBRICATION

1. Remove:
   - Grip cap (lower) ①



2. Apply:
   - Lithium soap base grease
     On the throttle cable end ⓐ and tube guide cable winding portion ⓑ.
3. Install:
   - Grip cap (lower)

4 Nm (0.4 m · kg, 2.9 ft · lb)

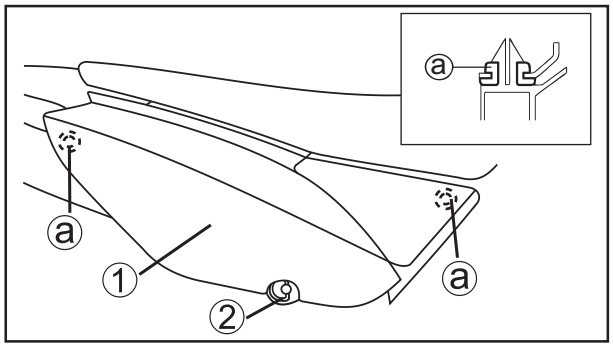
AIR FILTER CLEANING

TIP

Proper air filter maintenance is the biggest key to preventing premature engine wear and damage.

NOTICE

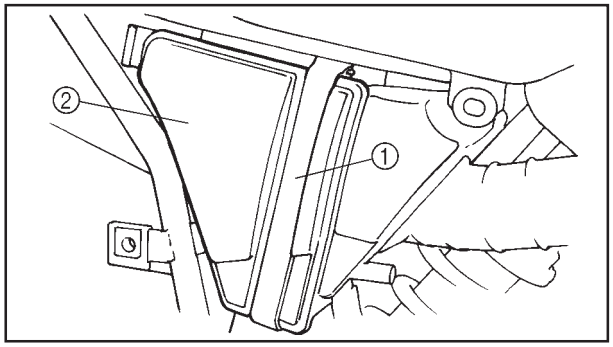
Never run the engine without the air filter element in place; this would allow dirt and dust to enter the engine and cause rapid wear and possible engine damage.



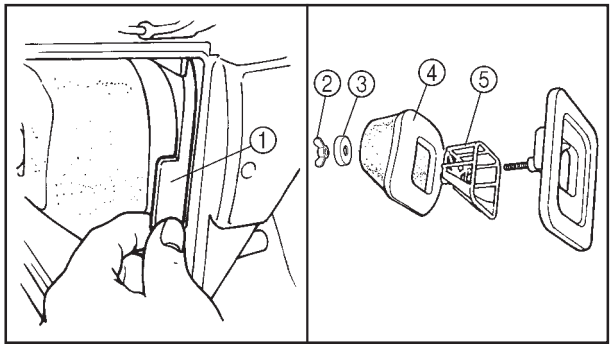
1. Remove:
   - Right side cover ①

TIP

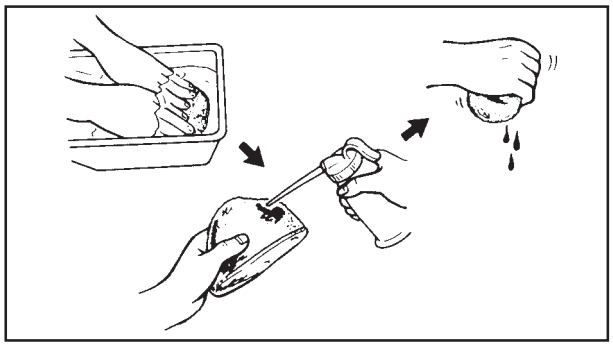
Loosen the quick screw ② and remove the right side cover from the holding boss ⓐ.



2. Remove:
   - Band ①
   - Air filter case cover ②



3. Remove:
   - Air filter assembly ①
   - Wing nut ②
   - Washer ③
   - Air filter element ④
   - Air filter guide ⑤



4. Clean:
   - Air filter element
     Clean it with solvent.

TIP

After cleaning, remove the remaining solvent by squeezing the element.

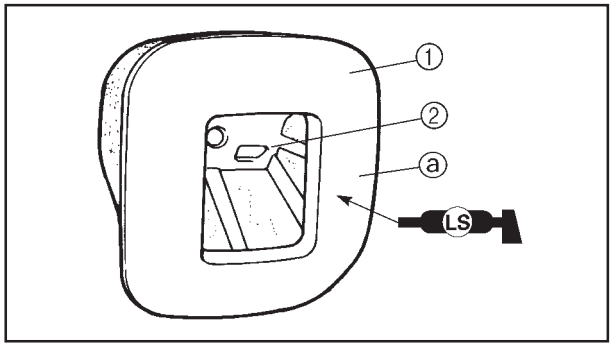
NOTICE

Do not twist the element when squeezing the element.

5. Inspect:
   - Air filter element
     Damage → Replace.

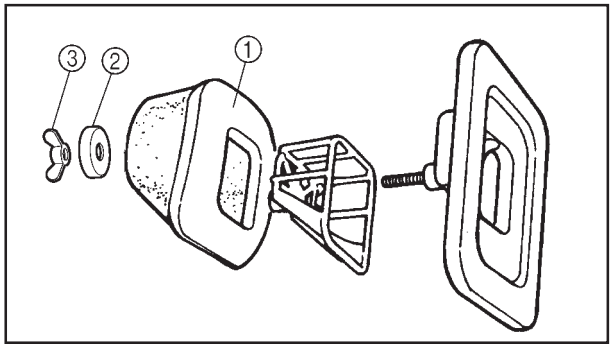
6. Apply:
   • Yamaha foam air filter oil or other quality foam air filter oil.

TIP
Squeeze out the excess oil. Element should be wet but not dripping.



7. Install:
   • Air filter element ①
     On air filter guide ②

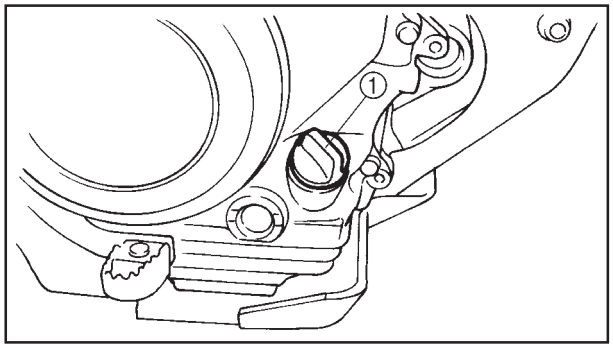
8. Apply:
   • Lithium soap base grease
     On the matching surface ⓐ on air filter element.



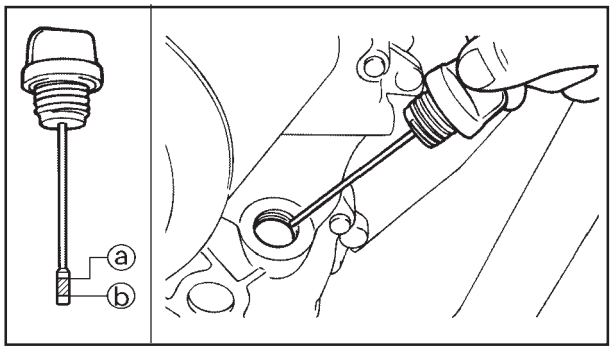
9. Install:
   • Air filter element ①
   • Washer ②
   • Wing nut ③

ENGINE OIL LEVEL INSPECTION

1. Start the engine, warm it up for several minutes and wait for five minutes.
2. Place the machine on a level place and hold it up on upright position by placing the suitable stand under the engine.

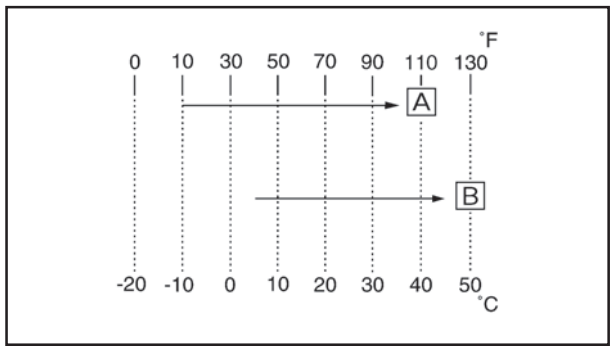


3. Remove:
   • Dipstick ①



4. Check:
   - Oil level
     Oil level should be between maximum ⓐ and minimum ⓑ marks.
     Oil level is low → Add oil to proper level.

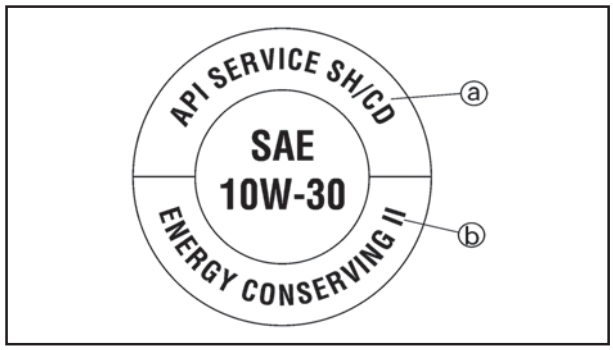
TIP
When inspecting the oil level, do not screw the dipstick into the oil tank. Insert the gauge lightly.



Recommended oil:
At -10 °C (10 °F) or higher A:
Yamalube 4 (10W-30) or SAE 10W-30 type SE motor oil
At 5 °C (40 °F) or higher B:
Yamalube 4 (20W-40) or SAE 20W-40 type SE motor oil

NOTICE

- **Do not add any chemical additives. Engine oil also lubricates the clutch and additives could cause clutch slippage.**
- **Do not allow foreign material to enter the crankcase.**



NOTICE

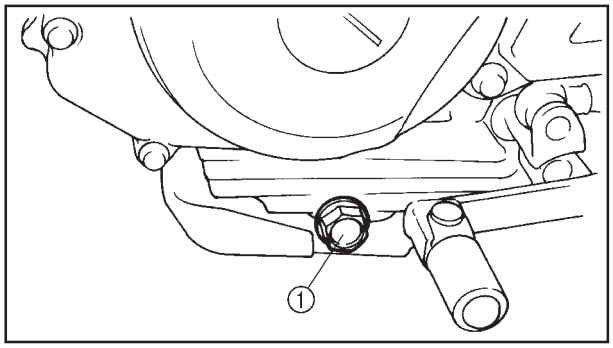
- **Do not add any chemical additives or use oils with a grade of CD ⓐ or higher.**
- **Do not use oils labeled ENERGY CONSERVING II ⓑ or higher. Engine oil also lubricates the clutch and additives could cause clutch slippage.**
- **Do not allow foreign materials to enter the crankcase.**

5. Install:
   • Dipstick
6. Start the engine and let it warm up for several minutes.
7. Turn off the engine and inspect the oil level once again.

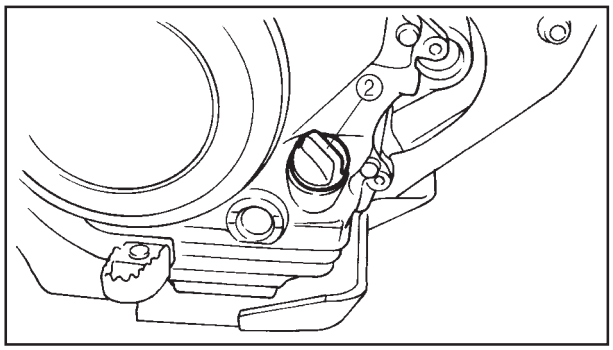
TIP
Wait a few minutes until the oil settles before inspecting the oil level.

ENGINE OIL REPLACEMENT

1. Start the engine and warm it up for several minutes and wait for five minute.
2. Place the machine on a level place and hold it on upright position by placing the suitable stand under the engine.
3. Place a suitable container under the engine.
4. Remove:
   • Oil drain bolt ①
   • Dipstick ②
   Drain the engine oil.
5. Install:
   • Copper washer **New**
   • Oil drain bolt ①



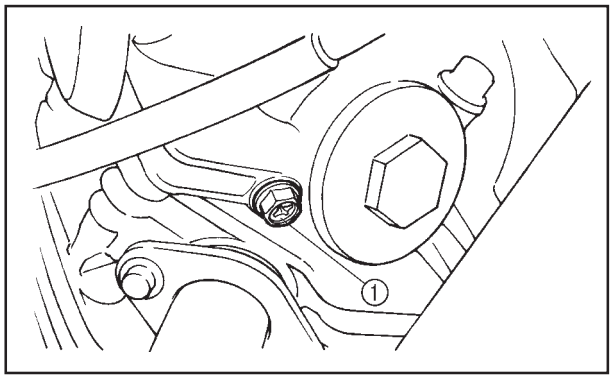
20 Nm (2.0 m · kg, 14 ft · lb)



6. Fill:
   • Engine oil

Oil capacity:
Periodic oil change:
1.0 L (0.88 Imp qt, 1.06 US qt)

7. Check:
   • Oil leakage
8. Check:
   • Engine oil level
9. Install:
   • Dipstick ②



OIL PRESSURE INSPECTION

1. Check:
   - Oil pressure

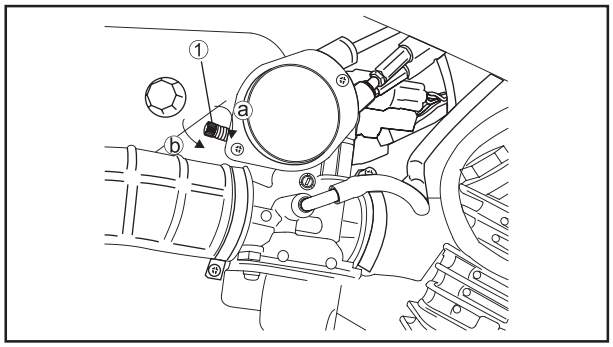
Checking steps:

- Slightly loosen the oil pressure check bolt ①.
- Start the engine and keep it idling until oil starts to seep from the oil pressure check bolt. If no oil comes out after one minute, turn the engine off so it will not seize.
- Check oil passages and oil pump for damage or leakage.
- Start the engine after solving the problem(s) and recheck the oil pressure.
- Tighten the oil pressure check bolt.

Oil pressure check bolt:
7 Nm (0.7 m · kg, 5.1 ft · lb)

ENGINE IDLING SPEED ADJUSTMENT

1. Start the engine and thoroughly warm it up.
2. Attach:
   - Inductive tachometer
     To spark plug lead.
3. Adjust:
   - Engine idling speed



Adjustment steps:

- Adjust the pilot air screw.
  Refer to "PILOT AIR SCREW ADJUSTMENT" section.
- Turn the throttle stop screw ① until the specified engine idling speed.

To increase idling speed →
Turn the throttle stop screw ① in ⓐ.
To decrease idling speed →
Turn the throttle stop screw ① out ⓑ.

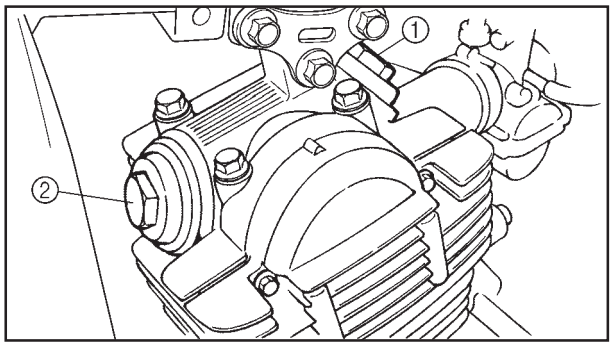
	Inductive tachometer: YU-8036-B/90890-03113
	Engine idling speed: 1,300 ~ 1,500 r/min

VALVE CLEARANCE INSPECTION AND ADJUSTMENT

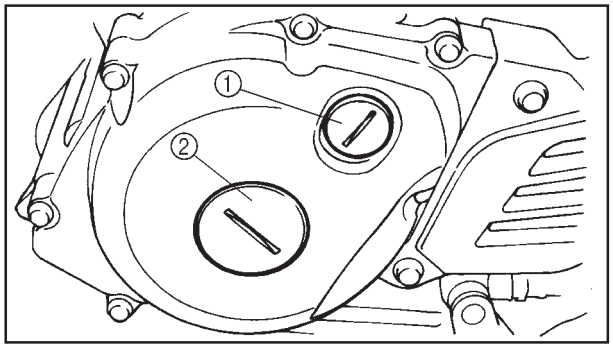
TIP

- The valve clearance should be adjusted when the engine is cool to the touch.
- The piston must be at Top Dead Center (T.D.C.) on compression stroke to check or adjust the valve clearance.

1. Remove:
   - Seat
   - Fuel tank
     Refer to "SEAT, FUEL TANK AND SIDE COVERS" section in the CHAPTER 4.



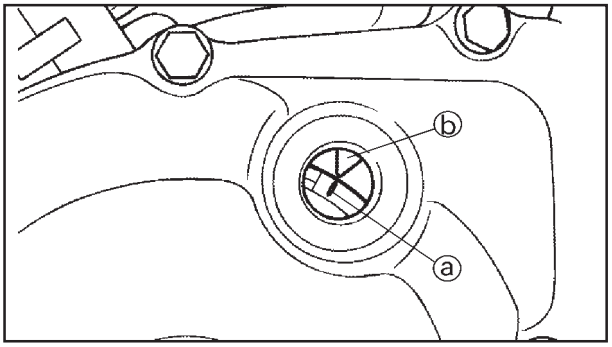
2. Remove:
   - Spark plug
   - Intake tappet cover ①
   - Exhaust tappet cover ②
   - O-ring



3. Remove:
   - Timing mark accessing screw ①
   - Crankshaft end accessing screw ②
   - O-ring

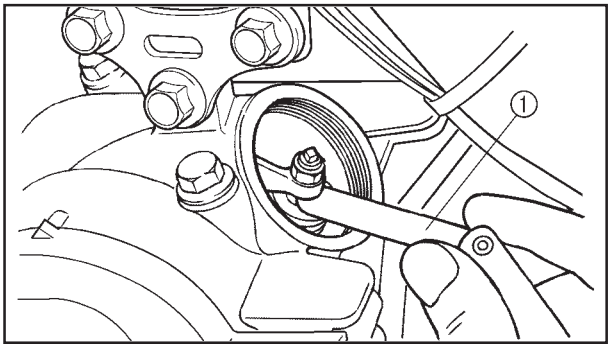
4. Check:
   • Valve clearance
   Out of specification → Adjust.

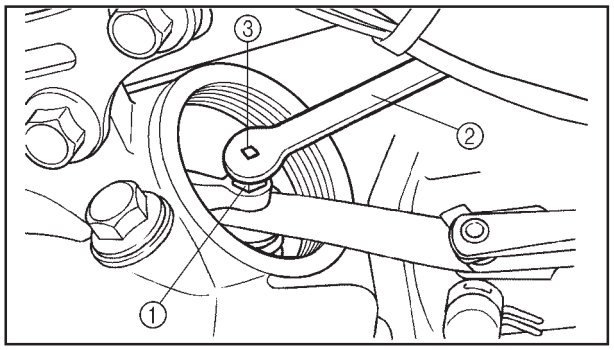
Valve clearance (cold):
Intake valve:
0.08 ~ 0.12 mm
(0.0031 ~ 0.0047 in)
Exhaust valve:
0.10 ~ 0.14 mm
(0.0039 ~ 0.0055 in)



Checking steps:

- Turn the crankshaft counterclockwise with a wrench.
- Align the T.D.C. mark ⓐ on the rotor with the align mark ⓑ on the crankcase cover when piston is at T.D.C. on compression stroke.
- Measure the valve clearance using a feeler gauge ①.
  Out of specification → Adjust clearance.





5. Adjust:
   • Valve clearance

Adjustment steps:

- Loosen the locknut ①.
- Turn the adjuster ③ in or out with the valve adjusting tool ② until specified clearance is obtained.

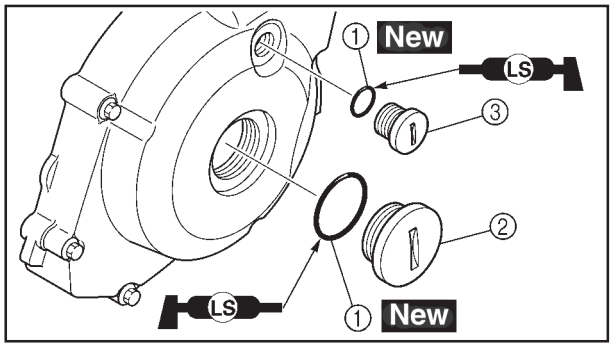
Turning in →
Valve clearance is decreased.
Turning out →
Valve clearance is increased.

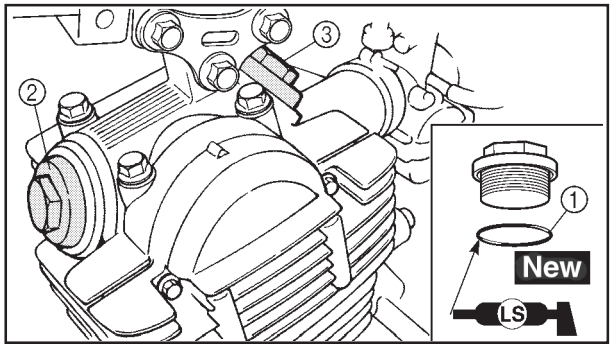
Tappet adjusting tool:
YM-8035/90890-01311

- Hold the adjuster to prevent it from moving and tighten the locknut.

Locknut:
8 Nm (0.8 m · kg, 5.8 ft · lb)

- Measure the valve clearance.
- If the clearance is incorrect, repeat above steps until specified clearance is obtained.





6. Install:
   - O-ring ① **New**
   - Crankshaft end accessing screw ②

     7 Nm (0.7 m · kg, 5.1 ft · lb)
   - Timing mark accessing screw ③

     7 Nm (0.7 m · kg, 5.1 ft · lb)

TIP

Apply the lithium soap base grease on the O-rings.

7. Install:
   - O-ring ① **New**
   - Exhaust tappet cover ②

     18 Nm (1.8 m · kg, 13 ft · lb)
   - Intake tappet cover ③

     18 Nm (1.8 m · kg, 13 ft · lb)

TIP

Apply the lithium soap base grease on the O-rings.

8. Install:
   - Spark plug

     13 Nm (1.3 m · kg, 9.4 ft · lb)
   - Fuel tank

     10 Nm (1.0 m · kg, 7.2 ft · lb)
   - Seat

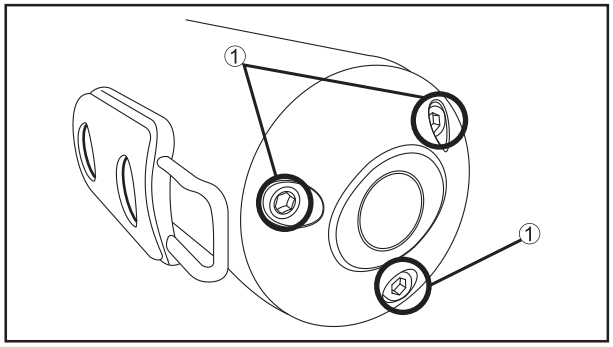
     7 Nm (0.7 m · kg, 5.1 ft · lb)

Refer to "SEAT, FUEL TANK AND SIDE COVERS" section in the CHAPTER 4.

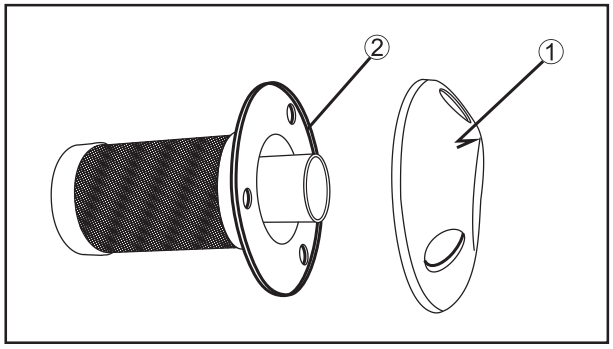
SPARK ARRESTER CLEANING

⚠ WARNING

- **Be sure the exhaust pipe and muffler are cool before cleaning the spark arrester.**
- **Do not start the engine when cleaning the exhaust system.**



1. Remove:
   - Bolt (spark arrester) ①



2. Remove:
   - Cap ①
   - Spark arrester ②
     Pull the spark arrester out of the muffler.

3. Clean:
   - Spark arrester
     Tap the spark arrester lightly, then use a wire brush to remove any carbon deposits

4. Install:
   - Spark arrester
     Insert the spark arrester into the muffler, cap and align the bolt holes.
   - Bolt (spark arrester)

	10 Nm (1.0 m · kg, 7.2 ft · lb)

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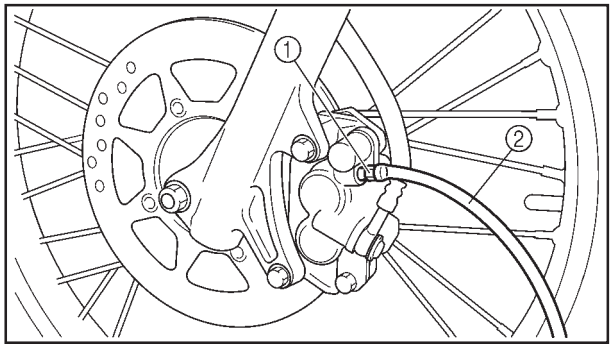
BRAKE SYSTEM AIR BLEEDING (TT-R125LE)

⚠ WARNING

Bleed the brake system if:
- **The system has been disassembled.**
- **A brake hose has been loosened or removed.**
- **The brake fluid is very low.**
- **The brake operation is faulty.**

A dangerous loss of braking performance may occur if the brake system is not properly bled.

1. Remove:
   - Brake master cylinder cap
   - Diaphragm
2. Bleed:
   - Brake fluid



Air bleeding steps:

a. Add proper brake fluid to the reservoir.
b. Install the diaphragm. Be careful not to spill any fluid or allow the reservoir to overflow.
c. Connect the clear plastic tube ② tightly to the caliper bleed screw ①.
d. Place the other end of the tube into a container.
e. Slowly apply the brake lever several times.
f. Pull in the lever. Hold the lever in position.
g. Loosen the bleed screw and allow the lever to travel towards its limit.
h. Tighten the bleed screw when the lever limit has been reached; then release the lever.

Bleed screw:
6 Nm (0.6 m · kg, 4.3 ft · lb)

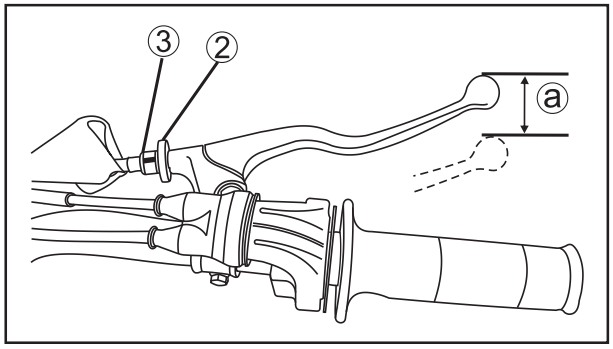
i. Repeat steps (e) to (h) until of the air bubbles have been removed from the system.

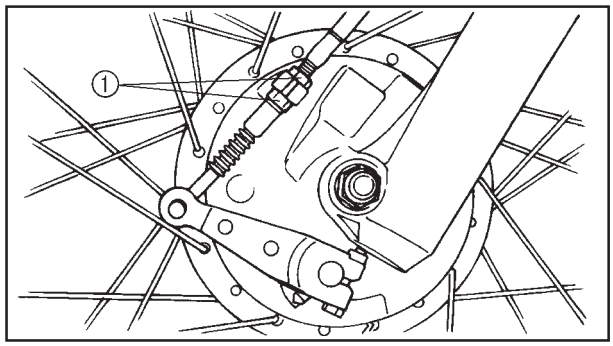
TIP
If bleeding is difficult, it may be necessary to let the brake fluid system stabilize for a few hours. Repeat the bleeding procedure when the tiny bubbles in the system have disappeared.

j. Add brake fluid to the level line on the reservoir.

⚠ WARNING
Check the operation of the brake after bleeding the brake system.

3. Install:
   - Diaphragm
   - Brake master cylinder cap





FRONT BRAKE ADJUSTMENT
TT-R125E

1. Check:
   - Brake lever free play ⓐ
     Out of specification → Adjust.

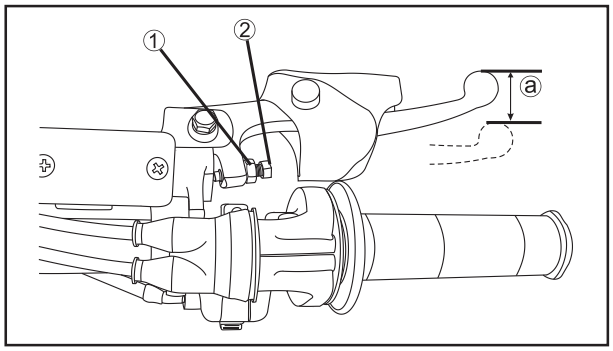
Brake lever free play ⓐ:
10 ~ 15 mm (0.39 ~ 0.59 in)

2. Adjust:
   - Brake lever free play

Brake lever free play adjustment steps:
- Loosen the locknuts ①.
- Turn the locknuts until free play ⓐ is within the specified limits by changing their tightening position.
- Tighten the locknuts.

TIP
For minute adjustment, loosen the locknut ② on the lever side and adjust with the adjuster ③.

NOTICE
Make sure that there is no brake drag after adjusting the brake lever free play.



TT-R125LE

1. Check:
   - Brake lever free play ⓐ
     Out of specification → Adjust.

Brake lever free play ⓐ:
2 ~ 5 mm (0.08 ~ 0.20 in)

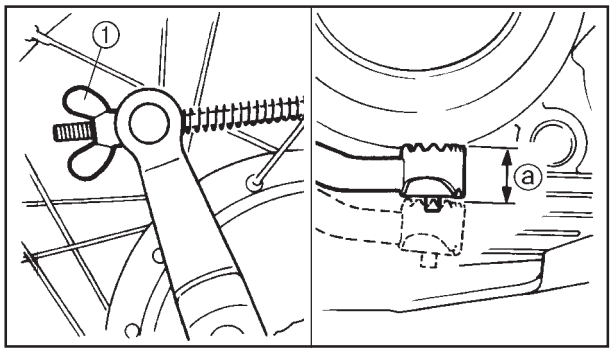
2. Adjust:
   - Brake lever free play

Brake lever free play adjustment steps:

- Loosen the locknut ①.
- Turn the adjuster ② until the free play ⓐ is within the specified limits.
- Tighten the locknut.

NOTICE

Make sure that there is no brake drag after adjusting the brake lever free play.



REAR BRAKE ADJUSTMENT

1. Check:
   - Brake pedal free play ⓐ
     Out of specification → Adjust.

Brake pedal free play ⓐ:
20 ~ 30 mm (0.79 ~ 1.18 in)

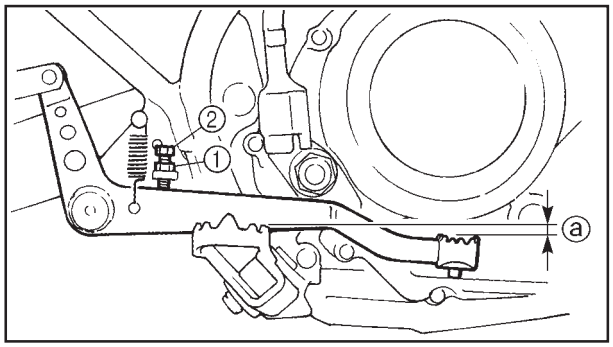
2. Adjust:
   - Brake pedal free play

Brake pedal free play adjustment step:

Turn the adjuster ① until the free play ⓐ is within the specified limits.

NOTICE

Make sure that there is no brake drag after adjusting the brake pedal play.



BRAKE PEDAL HEIGHT ADJUSTMENT

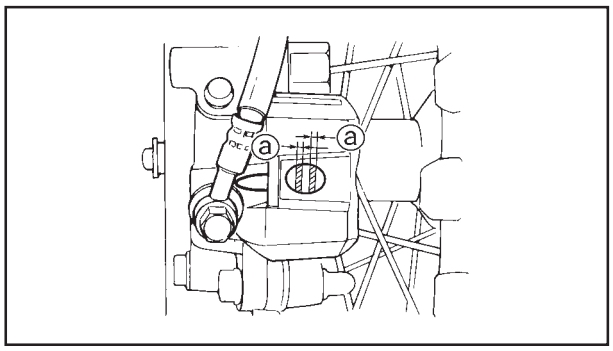
1. Check:
   - Brake pedal height ⓐ
     Out of specification → Adjust.

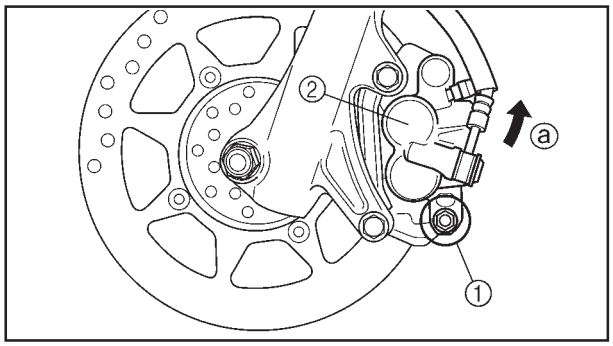
	Brake pedal height ⓐ: 1 mm (0.04 in)

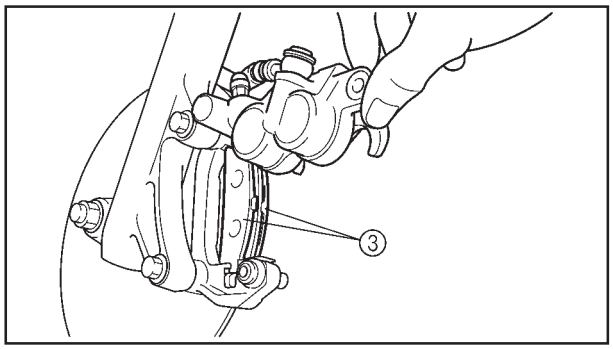
2. Adjust:
   - Brake pedal height

Pedal height adjustment steps:

- Loosen the locknut ①.
- Turn the adjusting bolt ② until the pedal height ⓐ is within specified height.
- Tighten the locknut.







FRONT BRAKE PAD INSPECTION AND REPLACEMENT (TT-R125LE)

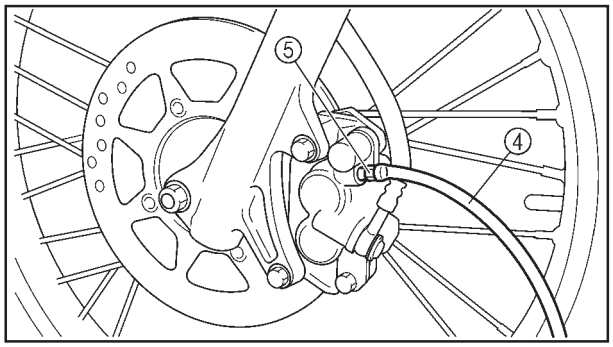
1. Remove:
   - Plug
2. Inspect:
   - Brake pad thickness ⓐ
     Out of specification → Replace as a set.

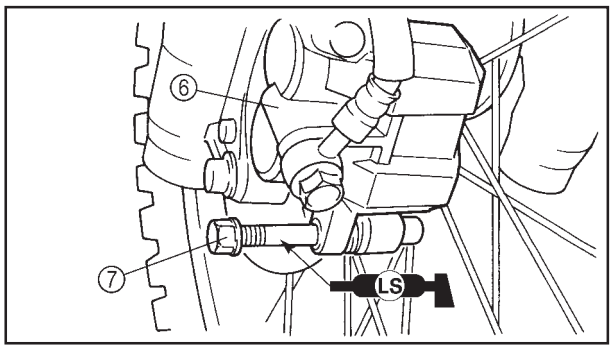
	Brake pad thickness ⓐ:	
Standard		**<Limit>**
4.0 mm (0.16 in)		**0.8 mm (0.03 in)**

3. Replace:
   - Brake pad

Brake pad replacement steps:

- Remove the brake caliper support bolt ①.
- Turn the brake caliper ② counterclockwise ⓐ.
- Replace the brake pads ③.





- Connect the transparent hose ④ to the bleed screw ⑤ and place the suitable container under its end.
- Loosen the bleed screw and push the brake caliper piston in.

NOTICE

Do not reuse the drained brake fluid.

- Tighten the bleed screw.

	Bleed screw: **6 Nm (0.6 m · kg, 4.3 ft · lb)**

- Install the brake caliper ⑥ and brake caliper support bolt ⑦.

TIP

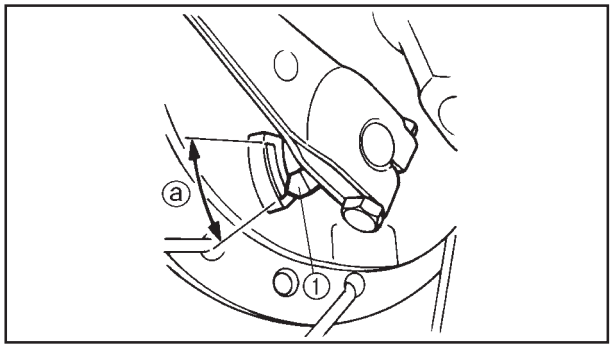
Apply the lithium soap base grease on the caliper support bolt

	Brake caliper support bolt: **22 Nm (2.2 m · kg, 16 ft · lb)**

4. Inspect:
   - Brake fluid level
     Refer to "BRAKE FLUID LEVEL INSPECTION" section.
5. Check:
   - Brake lever operation
     A softy or spongy feeling → Bleed brake system.
     Refer to "BRAKE SYSTEM AIR BLEEDING" section.

FRONT BRAKE SHOE INSPECTION (TT-R125E)

1. Inspect:
   - Brake shoe lining wear limit

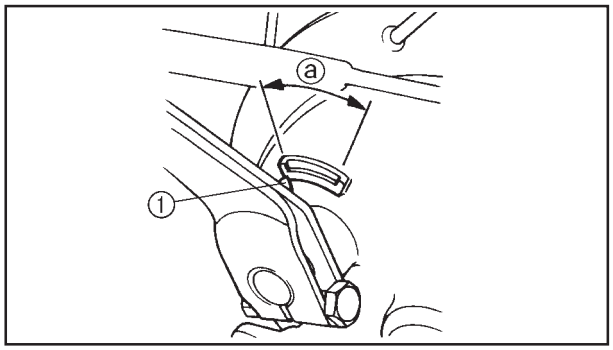


Brake shoe lining wear limit checking steps:

- Fully pull in the brake lever and hold it in position.
- Then check the brake shoe wear indicator ① is within the wear limit ⓐ.

Outside the limit → Replace the brake shoe.

Refer to "FRONT WHEEL AND FRONT BRAKE" section in the CHAPTER 5.



REAR BRAKE SHOE INSPECTION

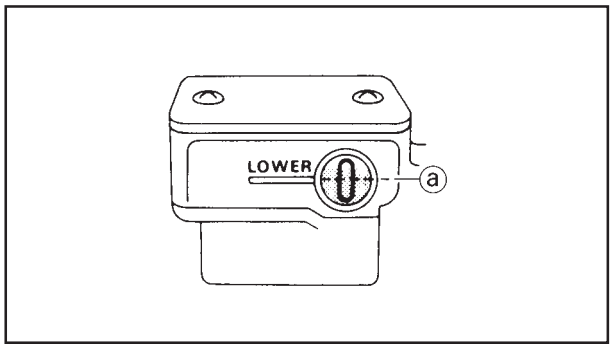
1. Inspect:
   - Brake shoe lining wear limit

Brake shoe lining wear limit checking steps:

- Fully push down the brake pedal and hold it in position.
- Then check the brake shoe wear indicator ① is within the wear limit ⓐ.

Outside the limit → Replace the brake shoe. Refer to "REAR WHEEL AND REAR BRAKE" section in the CHAPTER 5.

BRAKE FLUID LEVEL INSPECTION (TT-R125LE)



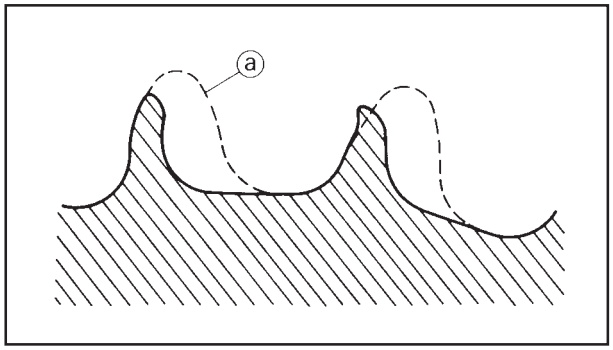
1. Place the brake master cylinder so that its top is in a horizontal position.
2. Inspect:
   - Brake fluid level
     Fluid at lower level → Fill up.

ⓐ Lower level

Recommended brake fluid:
DOT #4

⚠ WARNING

- **Use only designated quality brake fluid to avoid poor brake performance.**
- **Refill with same type and brand of brake fluid; mixing fluids could result in poor brake performance.**
- **Be sure that water or other contaminants do not enter brake master cylinder when refilling.**
- **Clean up spilled fluid immediately to avoid erosion of painted surfaces or plastic parts.**

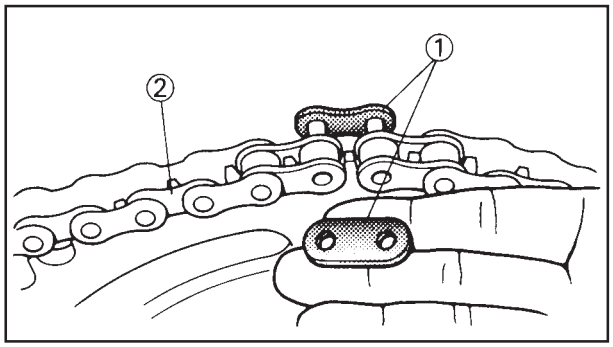


SPROCKETS INSPECTION

1. Inspect:
   - Sprocket teeth ⓐ
     Excessive wear → Replace.

TIP

Replace the drive, driven sprockets and drive chain as a set.



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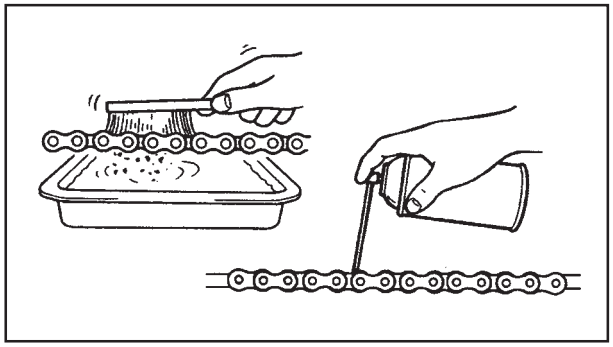
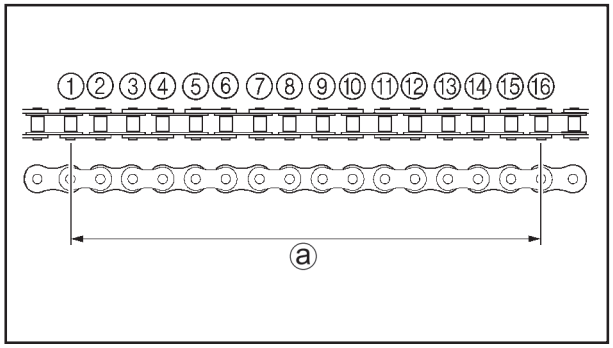
DRIVE CHAIN INSPECTION

1. Remove:
   - Master link clip
   - Joint ①
   - Drive chain ②

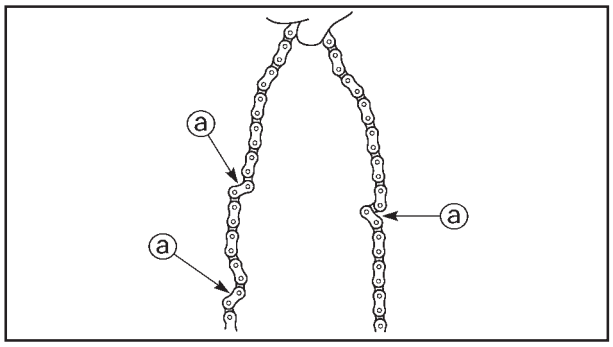


2. Clean:
   - Drive chain
     Place it in kerosene, and brush off as much dirt as possible. Then remove the chain from the kerosene and dry the chain.

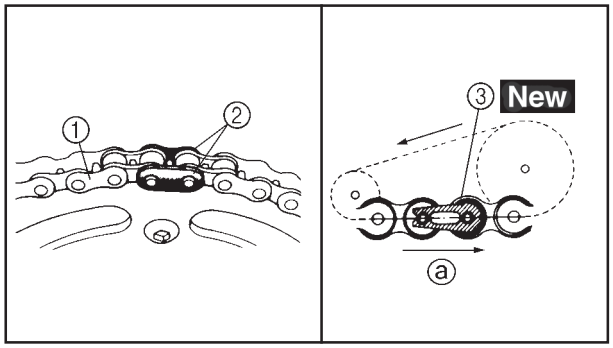


3. Measure:
   - Drive chain length (15 links) ⓐ
     Out of specification → Replace.

Drive chain length (15 links):
<Limit>: 194.3 mm (7.65 in)



4. Check:
   - Drive chain stiffness ⓐ
     Clean and oil the chain and hold as illustrated.
     Stiff → Replace drive chain.

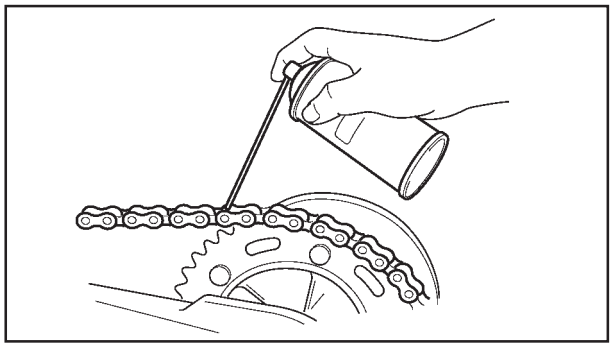


5. Install:
   - Drive chain ①
   - Joint ②
   - Master link clip ③ **New**

NOTICE

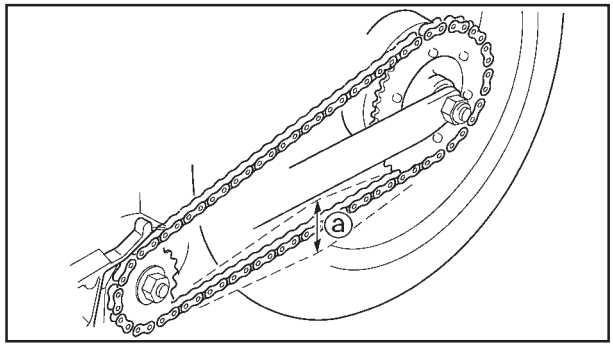
Be sure to install the master link clip to the direction as shown.

ⓐ Turning direction



6. Lubricate:
   • Drive chain

	Drive chain lubricant: **SAE 10W-30 motor oil or suitable chain lubricants**

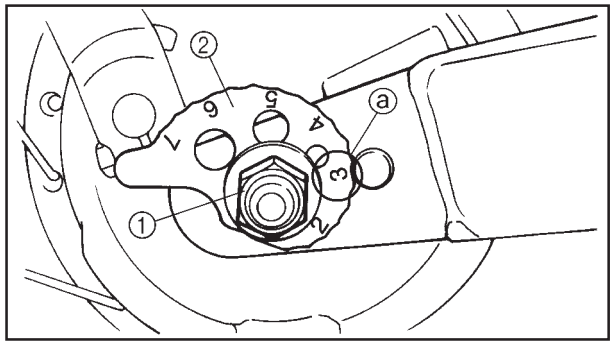


DRIVE CHAIN SLACK ADJUSTMENT

1. Elevate the rear wheel by placing the suitable stand under the engine.
2. Check:
   • Drive chain slack ⓐ
   In the center between the drive axle and rear wheel axle.
   Out of specification → Adjust.

	Drive chain slack: **35 ~ 50 mm (1.4 ~ 2.0 in)**

TIP
Before checking and/or adjusting, rotate the rear wheel through several revolutions and check the slack several times to find the tightest point. Check and/or adjust chain slack with rear wheel in this "tight chain" position.



3. Adjust:
   • Drive chain slack

Drive chain slack adjustment steps:

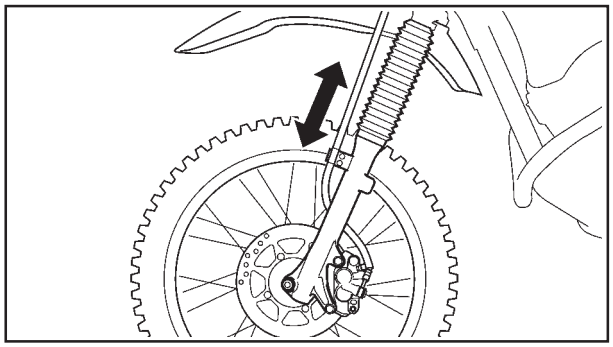
- Loosen the axle nut ①.
- Turn both drive chain pullers ② the same amount ⓐ and adjust them to the stopper in the same position so that the drive chain slack is within the specified limits.

NOTICE

Too small chain slack will overload the engine and other vital parts; keep the slack within the specified limits.

- Tighten the axle nut while pushing down the drive chain.

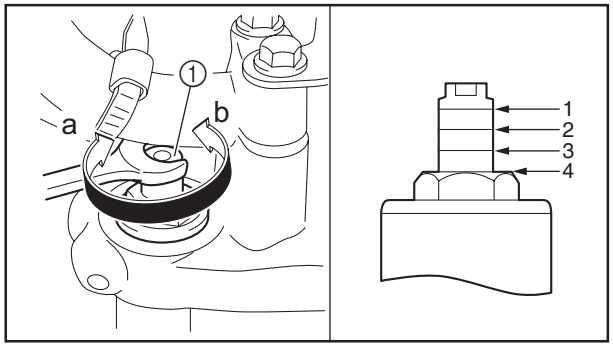
	Axle nut: **60 Nm (6.0 m · kg, 43 ft · lb)**



EC36C000

FRONT FORK INSPECTION

1. Inspect:
   - Front fork smooth action
     Operate the front brake and stroke the front fork.
     Unsmooth action/oil leakage → Repair or replace.



FRONT FORK SPRING PRELOAD ADJUSTMENT (TT-R125LE)

1. Adjust:
   - Spring preload
     By turning the adjuster ①.

Stiffer ⓐ	**→**	**Increase the spring preload. (Turn the adjuster ① in.)**
Softer ⓑ	**→**	**Decrease the spring preload. (Turn the adjuster ① out.)**

Extent of adjustment:	
Maximum	**Minimum**
Position 1	**Position 4**

- STANDARD POSITION:

Standard position:
4

TIP

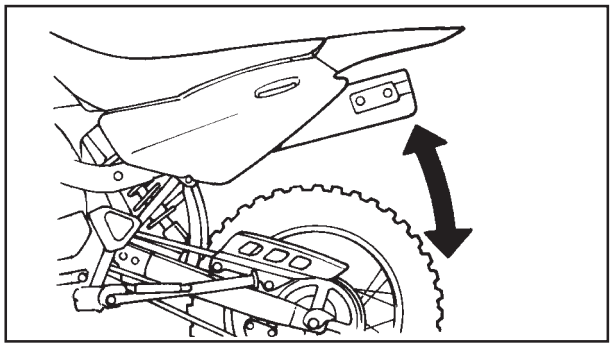
Grooves are provided to indicate the adjustment position.

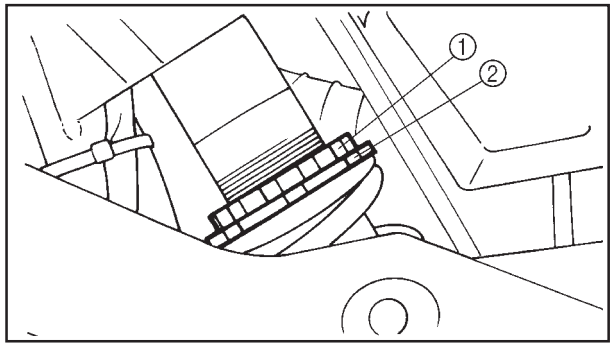
NOTICE

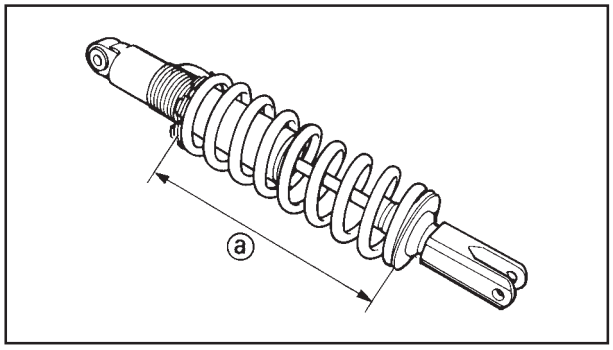
Never go beyond the maximum or minimum adjustment positions.

⚠ WARNING

Always adjust each front fork to the same setting. Uneven adjustment can cause poor handling and loss of stability.







REAR SHOCK ABSORBER ASSEMBLY INSPECTION

1. Inspect:
   - Swingarm smooth action
     Abnormal noise/unsmooth action → Grease the pivoting points or repair the pivoting points.
     Damage/oil leakage → Replace.

REAR SHOCK ABSORBER SPRING PRELOAD ADJUSTMENT

1. Elevate the rear wheel by placing the suitable stand under the engine.
2. Remove:
   - Left side cover
3. Loosen:
   - Locknut ①
4. Adjust:
   - Spring preload
     By turning the adjuster ②.

Stiffer	**→**	**Increase the spring preload. (Turn the adjuster 2 in.)**
Softer	**→**	**Decrease the spring preload. (Turn the adjuster 2 out.)**

Spring length (installed) ⓐ:

Standard length	Extent of adjustment
TT-R125E:	**TT-R125E:**
165 mm	**155 ~ 175 mm**
(6.50 in)	**(6.10 ~ 6.89 in)**
TT-R125LE:	**TT-R125LE:**
160.5 mm	**147.5 ~ 167.5 mm**
(6.32 in)	**(5.81 ~ 6.59 in)**

TIP

- Be sure to remove all dirt and mud from around the locknut and adjuster before adjustment.
- The length of the spring (installed) changes 1.5 mm (0.06 in) per turn of the adjuster.

NOTICE

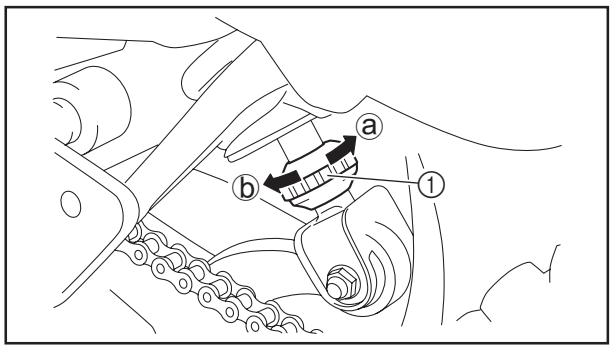
Never attempt to turn the adjuster beyond the maximum or minimum setting.

5. Tighten:
   • Locknut

	42 Nm (4.2 m · kg, 30 ft · lb)

6. Install:
   • Left side cover

	7 Nm (0.7 m · kg, 5.1 ft · lb)



EC36N014

REAR SHOCK ABSORBER REBOUND DAMPING FORCE ADJUSTMENT (TT-R125LE)

1. Adjust:
   • Rebound damping force
   By turning the adjuster ①.

Stiffer ⓐ →	**Increase the rebound damping force. (Turn the adjuster ① in.)**
Softer ⓑ →	**Decrease the rebound damping force. (Turn the adjuster ① out.)**

Extent of adjustment:

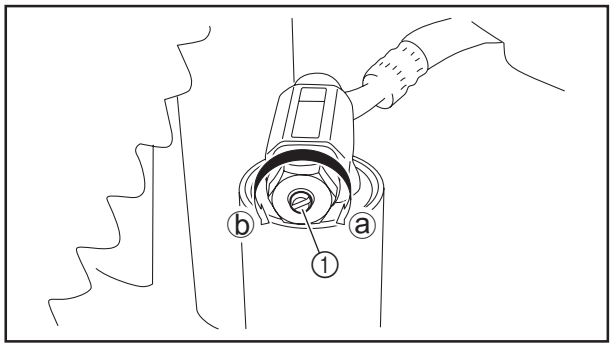
Maximum	Minimum
Fully turned in position	**20 clicks out (from maximum position)**

• STANDARD POSITION:
This is the position which is back by the specific number of clicks from the fully turned-in position.

Standard position:
About 12 clicks out

NOTICE

Never go beyond the maximum or minimum adjustment positions.



EC36c000

REAR SHOCK ABSORBER COMPRESSION DAMPING FORCE ADJUSTMENT (TT-R125LE)

1. Adjust:
   - Compression damping force
     By turning the adjuster ①.

Stiffer ⓐ →	**Increase the compression damping force. (Turn the adjuster ① in.)**
Softer ⓑ →	**Decrease the compression damping force. (Turn the adjuster ① out.)**

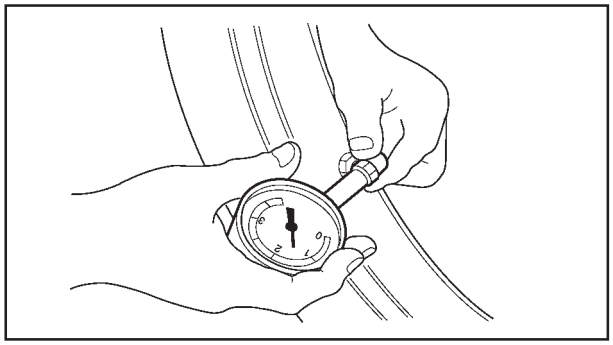
Extent of adjustment:	
Maximum	**Minimum**
Fully turned in position	**12 clicks out (from maximum position)**

- STANDARD POSITION:
  This is the position which is back by the specific number of clicks from the fully turned-in position.

Standard position: **About 9 clicks out**

NOTICE

Never go beyond the maximum or minimum adjustment positions.



EC36Q000

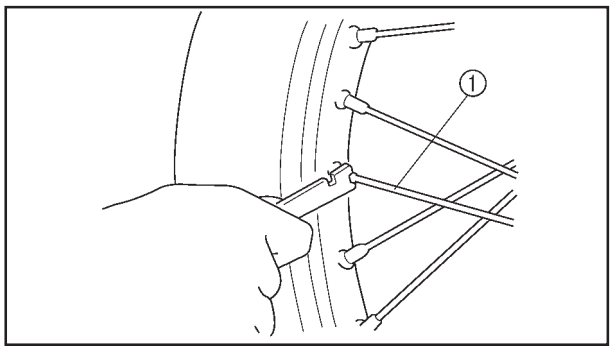
TIRE PRESSURE CHECK

1. Measure:
   - Tire pressure
     Out of specification → Adjust.

	Standard tire pressure: 100 kPa (1.00 kgf/cm2, 15 psi)

TIP

- Check the tire while it is cold.
- Loose bead stoppers allow the tire to slip off its position on the rim when the tire pressure is low.
- A tilted tire valve stem indicates that the tire slips off its position on the rim.
- If the tire valve stem is found tilted, the tire is considered to be slipping off its position. Correct the tire position.



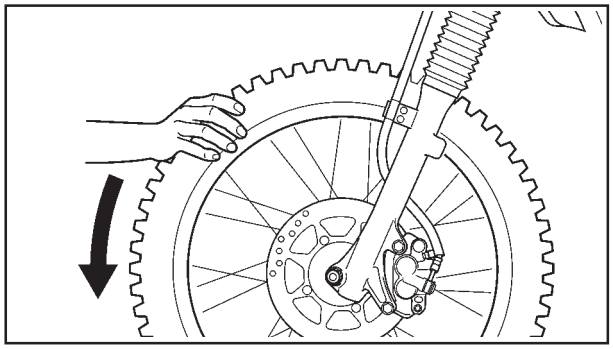
SPOKES INSPECTION AND TIGHTENING

1. Inspect:
   - Spokes ①
     Bend/damage → Replace.
     Loose spoke → Retighten.
2. Tighten:
   - Spokes

	Front	**2 Nm (0.2 m · kg, 1.4 ft · lb)**
	Rear	**3 Nm (0.3 m · kg, 2.2 ft · lb)**

TIP

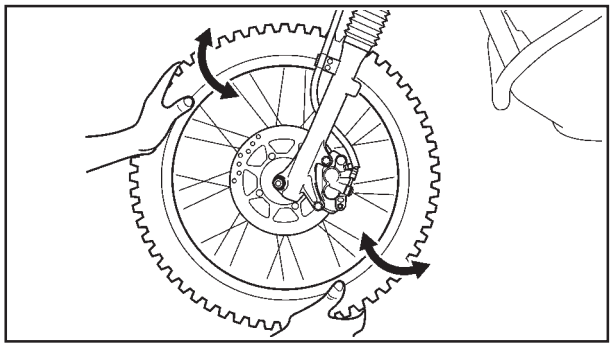
Be sure to retighten these spokes before and after break-in. After a practice check spokes for looseness.



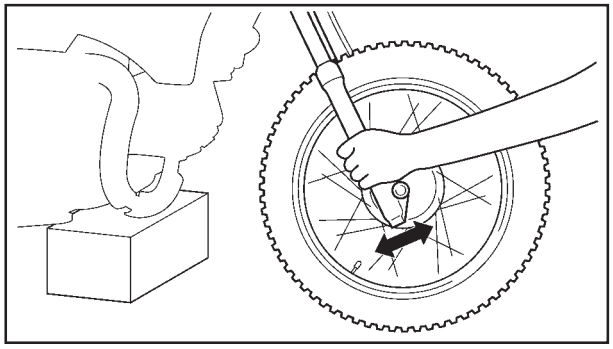
EC36T000

WHEEL INSPECTION

1. Inspect:
   - Wheel runout
     Elevate the wheel and turn it.
     Abnormal runout → Replace.

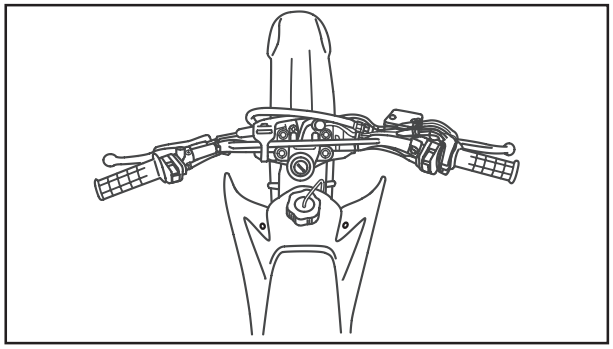


2. Inspect:
   • Bearing free play
   Exist play → Replace.

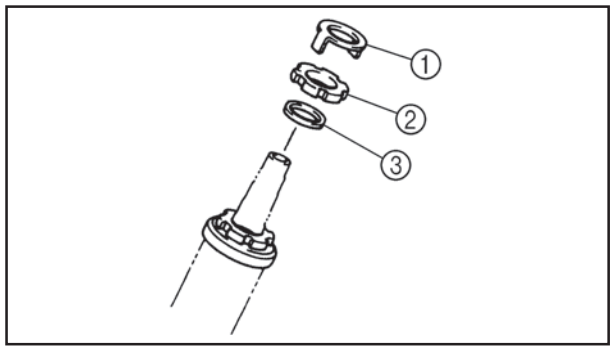


STEERING HEAD INSPECTION AND ADJUSTMENT

1. Elevate the front wheel by placing a suitable stand under the engine.
2. Check:
   • Steering shaft
   Grasp the bottom of the forks and gently rock the fork assembly back and forth.
   Free play → Adjust steering head.



3. Check:
   • Steering smooth action
   Turn the handlebar lock to lock.
   Unsmooth action → Adjust steering ring nut.

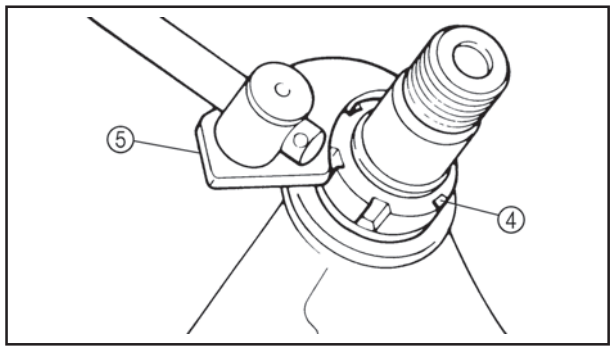


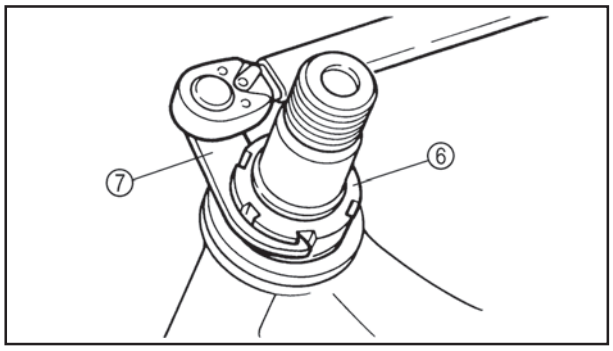
4. Adjust:
   • Steering ring nut

Steering ring nut adjustment steps:

- Remove the number plate and starter knob.
- Remove the main switch, handlebar and upper bracket.
- Remove the special washer ①.
- Remove the upper ring nut ②, and rubber washer ③.
- Loosen the lower ring nut ④ using the steering nut wrench ⑤.

Steering nut wrench:
YU-33975/90890-01403





- Tighten the lower ring nut ⑥ using steering nut wrench ⑦ and turn the steering right and left a few times.

TIP
Set the torque wrench to the steering nut wrench so that they form a right angle

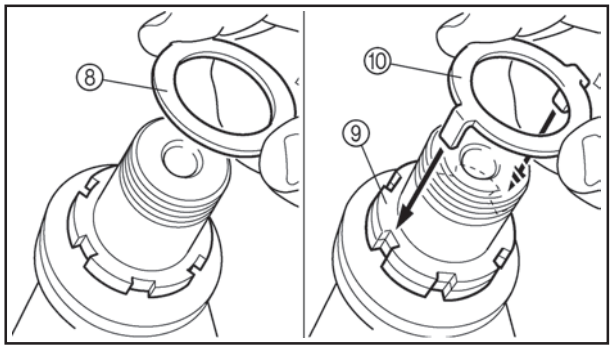
	Steering nut wrench: YU-33975/90890-01403
	Lower ring nut (initial tightening): 38 Nm (3.8 m · kg, 27 ft · lb)

- Loosen the lower ring nut one turn.
- Retighten the lower ring nut using the steering nut wrench.

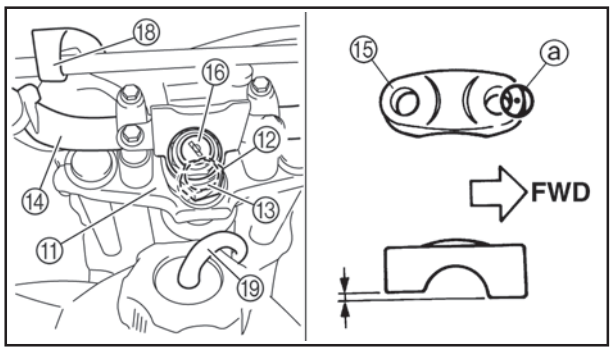
⚠ WARNING
Avoid over-tightening.

	Ring nut (final tightening): 20 Nm (2.0 m · kg, 14 ft · lb)

- Check the steering stem by turning it lock to lock. If there is any binding, remove the steering stem assembly and inspect the steering bearings.
- Install the rubber washer ⑧, upper ring nut ⑨ and special washer ⑩.

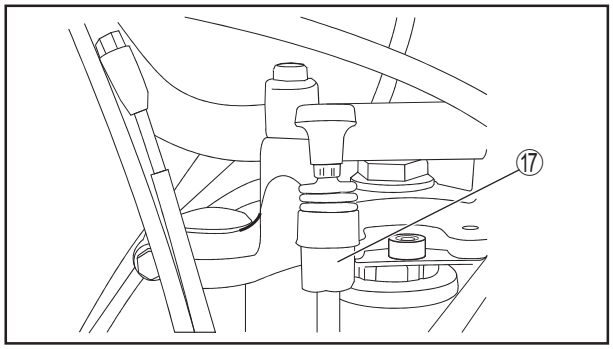


TIP
- Tighten the upper ring nut until it contacts the rubber washer.
- Insert the special washer pawls into the slots. If the slots are not aligned, tighten the upper ring nut for alignment.



- Install the upper bracket ⑪, steering stem nut ⑫, cap ⑬, handlebar ⑭, upper handlebar holder ⑮, main switch ⑯, starter knob nut ⑰ and number plate ⑱.

TIP
- The upper handlebar holder should be installed with the punched mark ⓐ forward.
- Insert the end of fuel breather hose ⑲ into the hose clamp.



NOTICE

First tighten the bolts on the front side of the handlebar holder, and then tighten the bolts on the rear side.

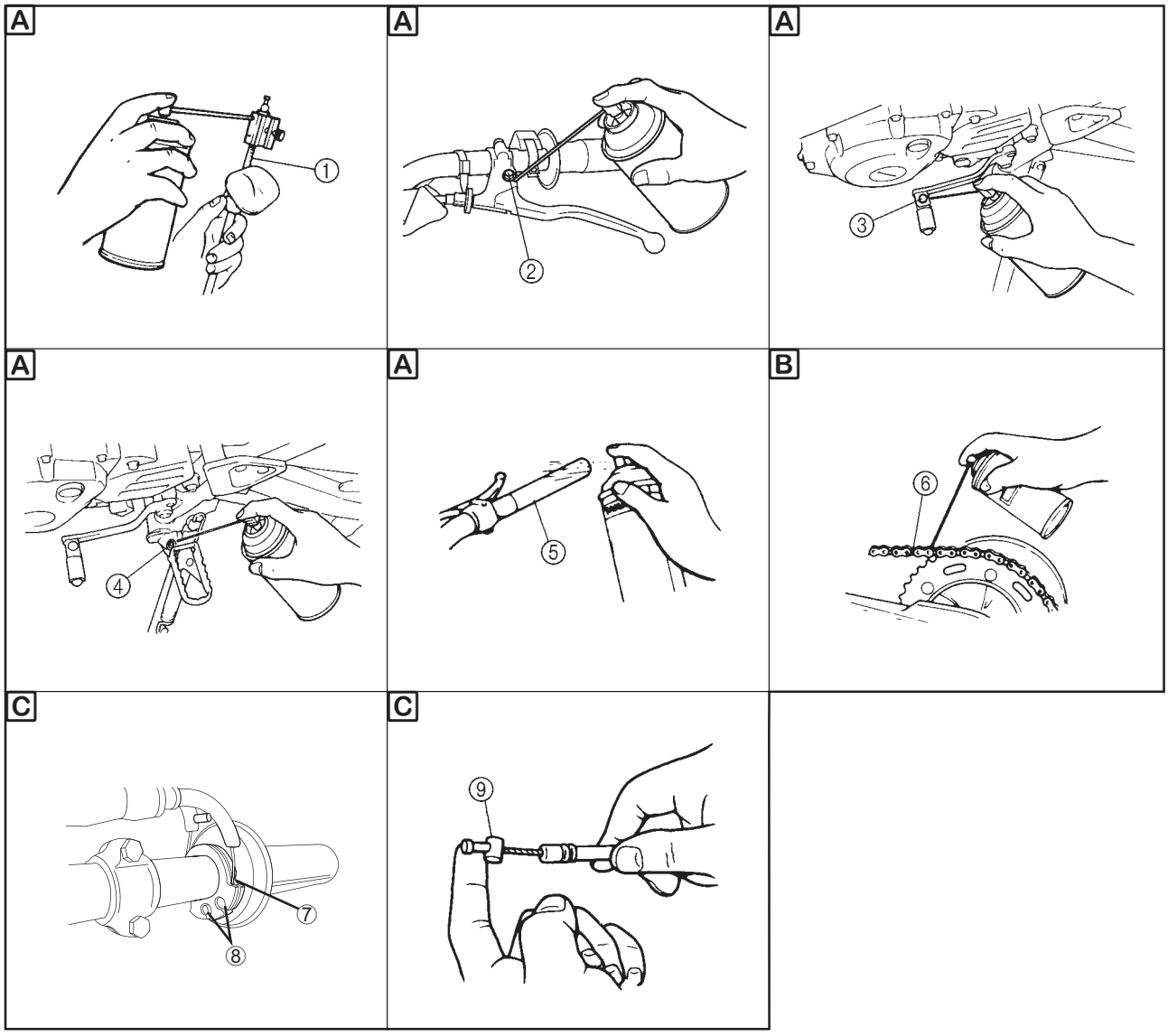
Pinch bolt (upper bracket)
25 Nm (2.5 m · kg, 18 ft · lb
Steering stem nut:
110 Nm (11.0 m · kg, 80 ft · lb)
Handlebar upper holder:
23 Nm (2.3 m · kg, 17 ft · lb)
Starter knob nut:
1 Nm (0.1 m · kg, 0.7 ft · lb)
Number plate:
7 Nm (0.7 m · kg, 5.1 ft · lb)

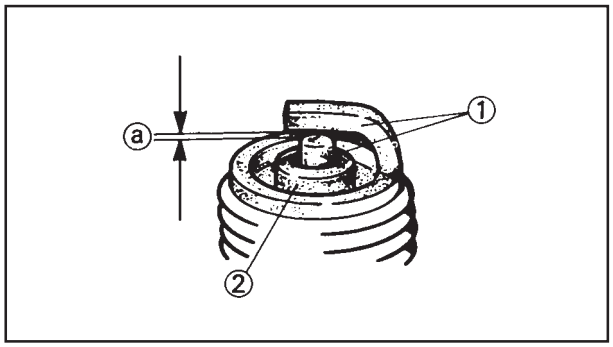
LUBRICATION

To ensure smooth operation of all components, lubricate your machine during setup, after break-in, and after every ride.

① All control cable
② Brake and clutch lever pivots
③ Shift pedal pivot
④ Footrest pivot
⑤ Throttle-to-handlebar contact
⑥ Drive chain
⑦ Tube guide cable winding portion
⑧ Throttle cable end
⑨ Brake and clutch cable ends (Clutch cable end only for the TT-R125LE)

A Use Yamaha cable lube or equivalent on these areas.
B Use SAE 10W-30 motor oil or suitable chain lubricants.
C Lubricate the following areas with high quality, lightweight lithium-soap base grease.





EC370000
ELECTRICAL

EC371001
SPARK PLUG INSPECTION

1. Remove:
   - Spark plug
2. Inspect:
   - Electrode ①
     Wear/damage → Replace.
   - Insulator color ②
     Normal condition is a medium to light tan color.
     Distinctly different color → Check the engine condition.

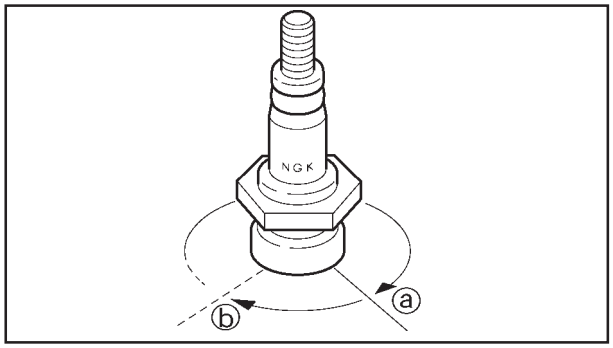
TIP
When the engine runs for many hours at low speeds, the spark plug insulator will become sooty, even if the engine and carburetor are in good operating condition.

3. Measure:
   - Plug gap ⓐ
     Use a wire gauge or thickness gauge.
     Out of specification → Regap.

Spark plug gap:
0.6 ~ 0.7 mm (0.02 ~ 0.03 in)

Standard spark plug:
CR7HSA (NGK)
U22FSR-U (DENSO)

4. Clean the plug with a spark plug cleaner if necessary.



5. Tighten:
   - Spark plug

13 Nm (1.3 m · kg, 9.4 ft · lb)

TIP
- Before installing a spark plug, clean the gasket surface and plug surface.
- Finger-tighten ⓐ the spark plug before torquing to specification ⓑ.

BATTERY INSPECTION AND CHARGING

⚠ WARNING

Batteries generate explosive hydrogen gas and contain electrolyte which is made of poisonous and highly caustic sulfuric acid. Therefore, always follow these preventive measures:

- **Wear protective eye gear when handling or working near batteries.**
- **Charge batteries in a well-ventilated area.**
- **Keep batteries away from fire, sparks or open flames (e.g., welding equipment, lighted cigarettes).**
- **DO NOT SMOKE when charging or handling batteries.**
- **KEEP BATTERIES AND ELECTROLYTE OUT OF REACH OF CHILDREN.**
- **Avoid bodily contact with electrolyte as it can cause severe burns or permanent eye injury.**

FIRST AID IN CASE OF BODILY CONTACT:
EXTERNAL

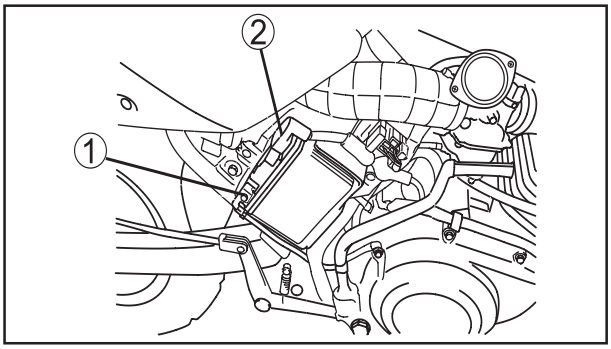
- **Skin Wash with water.**
- **Eyes Flush with water for 15 minutes and get immediate medical attention.**

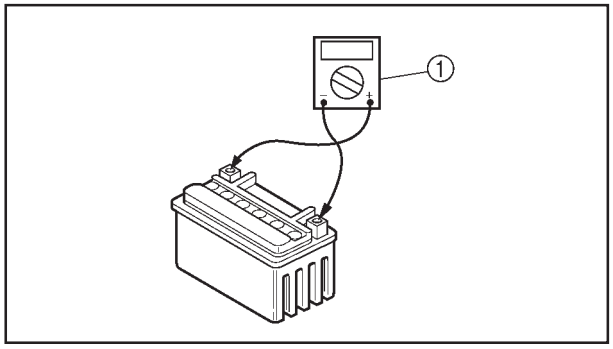
INTERNAL

- **Drink large quantities of water or milk followed with milk of magnesia, beaten egg or vegetable oil. Get immediate medical attention.**

NOTICE

Charging time, charging amperage and charging voltage for an MF battery are different from those of conventional batteries. The MF battery should be charged as explained in the charging method illustrations. If the battery is overcharged, the electrolyte level will drop considerably. Therefore, take special care when charging the battery.





TIP

Since MF batteries are sealed, it is not possible to check the charge state of the battery by measuring the specific gravity of the electrolyte. Therefore, the charge of the battery has to be checked by measuring the voltage at the battery terminals.

1. Remove:
   - Battery cover
2. Disconnect:
   - Battery leads
     (from the battery terminals)

NOTICE

First, disconnect the negative battery lead ①, and then the positive battery lead ②.

3. Remove:
   - Battery
4. Measure:
   - Battery charge

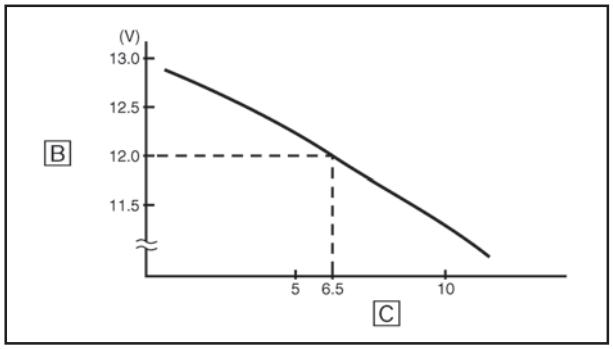
Measurement steps:

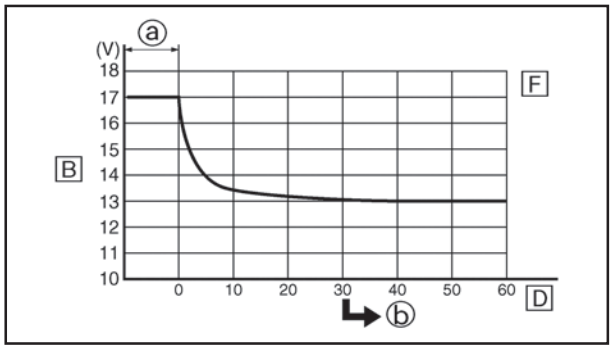
- Connect a pocket tester ① to the battery terminals.

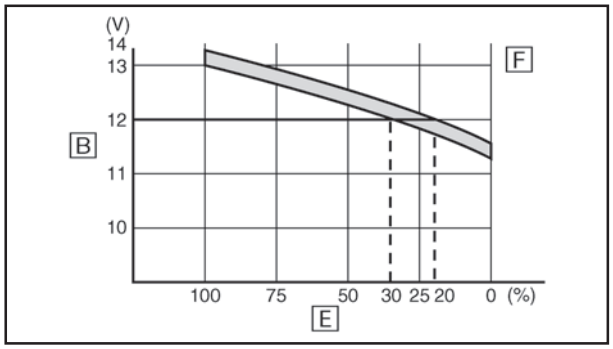
Tester positive probe →
battery positive terminal
Tester negative probe →
battery negative terminal

TIP

- The charge state of an MF battery can be checked by measuring its open-circuit voltage (i.e., the voltage when the positive terminal is disconnected).
- No charging is necessary when the open-circuit voltage equals or exceeds 12.8 V.







- Check the charge of the battery, as shown in the charts and the following example.

Example
Open-circuit voltage = 12.0 V
Charging time = 6.5 hours
Charge of the battery = 20 ~ 30%

A Relationship between the open-circuit voltage and the charging time at 20 °C (68 °F)
(These values vary with the temperature, the condition of the battery plates, and the electrolyte level.)
B Open-circuit voltage
C Charging time (hours)
D Time (minutes)
E Charging condition of the battery
F Ambient temperature 20 °C (68 °F)
ⓐ Charging
ⓑ Check the open-circuit voltage.

5. Charge:
   - Battery
     (refer to the appropriate charging method illustration)

⚠ WARNING

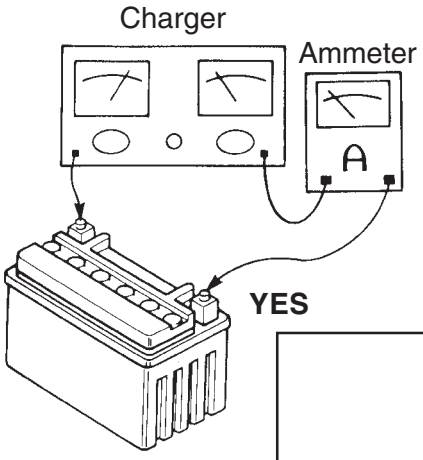
Do not quick charge a battery.

NOTICE

- **Never remove the MF battery sealing caps.**
- **Do not use a high-rate battery charger since it forces a high-amperage current into the battery quickly and can cause battery overheating and battery plate damage.**
- **If it is impossible to regulate the charging current on the battery charger, be careful not to overcharge the battery.**
- **When charging a battery, be sure to remove it from the machine. (If charging has to be done with the battery mounted on the machine, disconnect the negative battery lead from the battery terminal.)**
- **To reduce the chance of sparks, do not plug in the battery charger until the battery charger leads are connected to the battery.**

- **Before removing the battery charger lead clips from the battery terminals, be sure to turn off the battery charger.**
- **Make sure the battery charger lead clips are in full contact with the battery terminal and that they are not shorted. A corroded battery charger lead clip may generate heat in the contact area and a weak clip spring may cause sparks.**
- **If the battery becomes hot to the touch at any time during the charging process, disconnect the battery charger and let the battery cool before reconnecting it. Hot batteries can explode!**
- **As shown in the following illustration, the open-circuit voltage of an MF battery stabilizes about 30 minutes after charging has been completed. Therefore, wait 30 minutes after charging is completed before measuring the open-circuit voltage.**

Charging method using a variable voltage charger



Measure the open-circuit voltage prior to charging.

Connect a charger and ammeter to the battery and start charging.

Is the amperage higher than the standard charging amperage written on the battery?

YES

NO

TIP
Leave the battery unused for more than 30 minutes before measuring its open-circuit voltage.

TIP
Set the charging voltage to 16-17 V. (If the charging voltage is lower, charging will be insufficient, if it is higher, the battery will be over-charged.)

Adjust the charging voltage to 20 ~ 25 V.

Monitor the amperage for 3 ~ 5 minutes. Is the standard charging amperage exceeded?

YES

NO

Adjust the voltage to obtain the standard charging amperage.

If the amperage does not exceed the standard charging amperage after 5 minutes, replace the battery.

Set the timer to the charging time determined by the open-circuit voltage.
Refer to “BATTERY INSPECTION AND CHARGING” section.

If the required charging time exceeds 5 hours, it is advisable to check the changing amperage after 5 hours. If there is any change in the amperage, readjust the voltage to obtain the standard charging amperage.

Leave the battery unused for more than 30 minutes before measuring its open-circuit voltage.
12,8 V → Charging is complete.
12,0 ~ 12,7 V → Recharging is required.
Under 12,0 V → Replace the battery.

Charging method using a constant voltage charger

Measure the open-circuit voltage prior to charging.

TIP
Leave the battery unused for more than 30 minutes before measuring its open-circuit voltage.

Connect a charger and ammeter to the battery and start charging.

Is the amperage higher than the standard charging amperage written on the battery?

YES

Charge the battery until the charging voltage reaches 15 V.

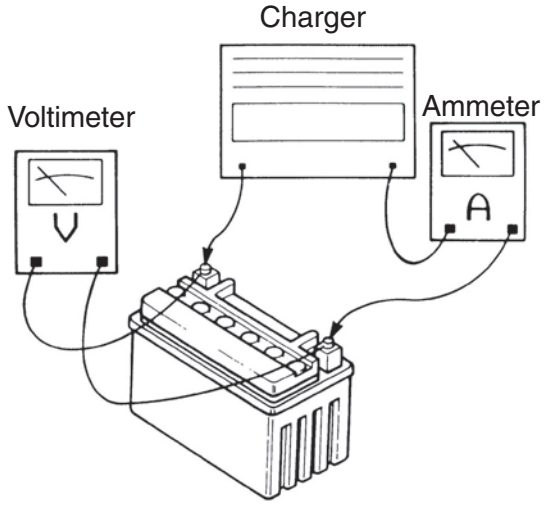
TIP
Set the charging time to a maximum of 20 hours.

Leave the battery unused for more than 30 minutes before measuring its open-circuit voltage.
12,8 V → Charging is complete.
12,0 ~ 12,7 V → Recharging is required.
Under 12,0 V → Replace the battery.

NO

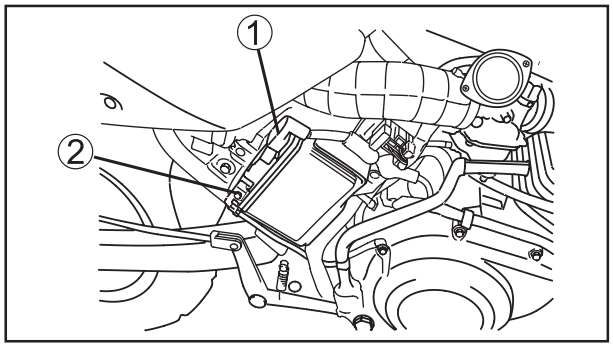
This type of battery charger cannot charge an MF battery. A variable voltage - charger is recommended.

NOTICE
Constant amperage chargers are not suitable for charging MF batteries.



6. Install:
   • Battery
7. Check:
   • Battery terminals
     Dirt → Clean with a wire brush.
     Loose connection → Connect properly.
8. Lubricate:
   • Battery terminal

	Recommended lubricant: **Lithium soap base grease**



9. Connect:
   • Battery leads
   (to the battery terminals)

NOTICE

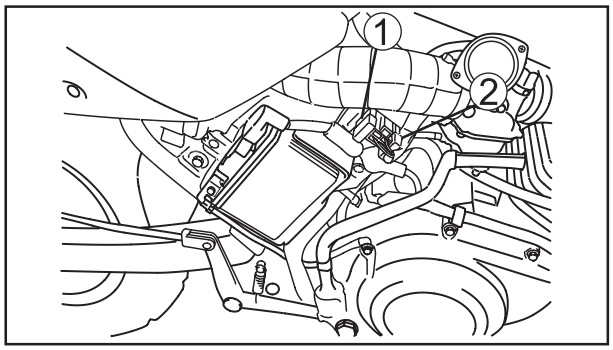
First, connect the positive lead ①, then the negative lead ②.

10. Install:
    • Battery cover

FUSE INSPECTION

NOTICE

To avoid a short circuit, always set the main switch to OFF when checking or replacing a fuse.



1. Remove:
   • Battery cover
2. Check:
   • Continuity

Checking steps:

• Remove the fuse ①.
• Connect the pocket tester to the fuse and check the continuity.

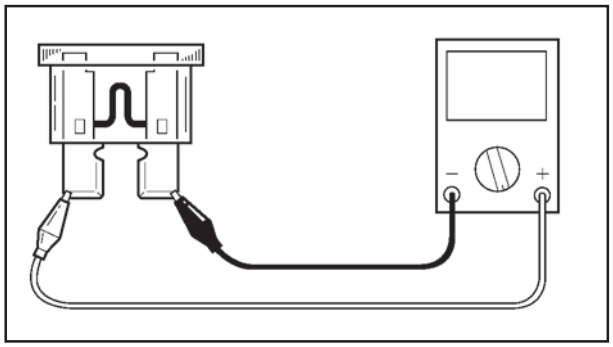
TIP

Set the pocket tester selector to "Ω×1".

	Pocket tester: **YU-03112-C/90890-03112**

• If the pocket tester indicates "∞", replace the fuse.

② Reserve fuse



3. Replace:
   - Blown fuse

Replacement steps:

- Set the main switch to "OFF".
- Install a new fuse of the correct amperage.
- Set on the switches to verify if the electrical circuit is operational.
- If the fuse immediately blows again, check the electrical circuit.

Items	Amperage rating	Qty
Main fuse	10 A	1

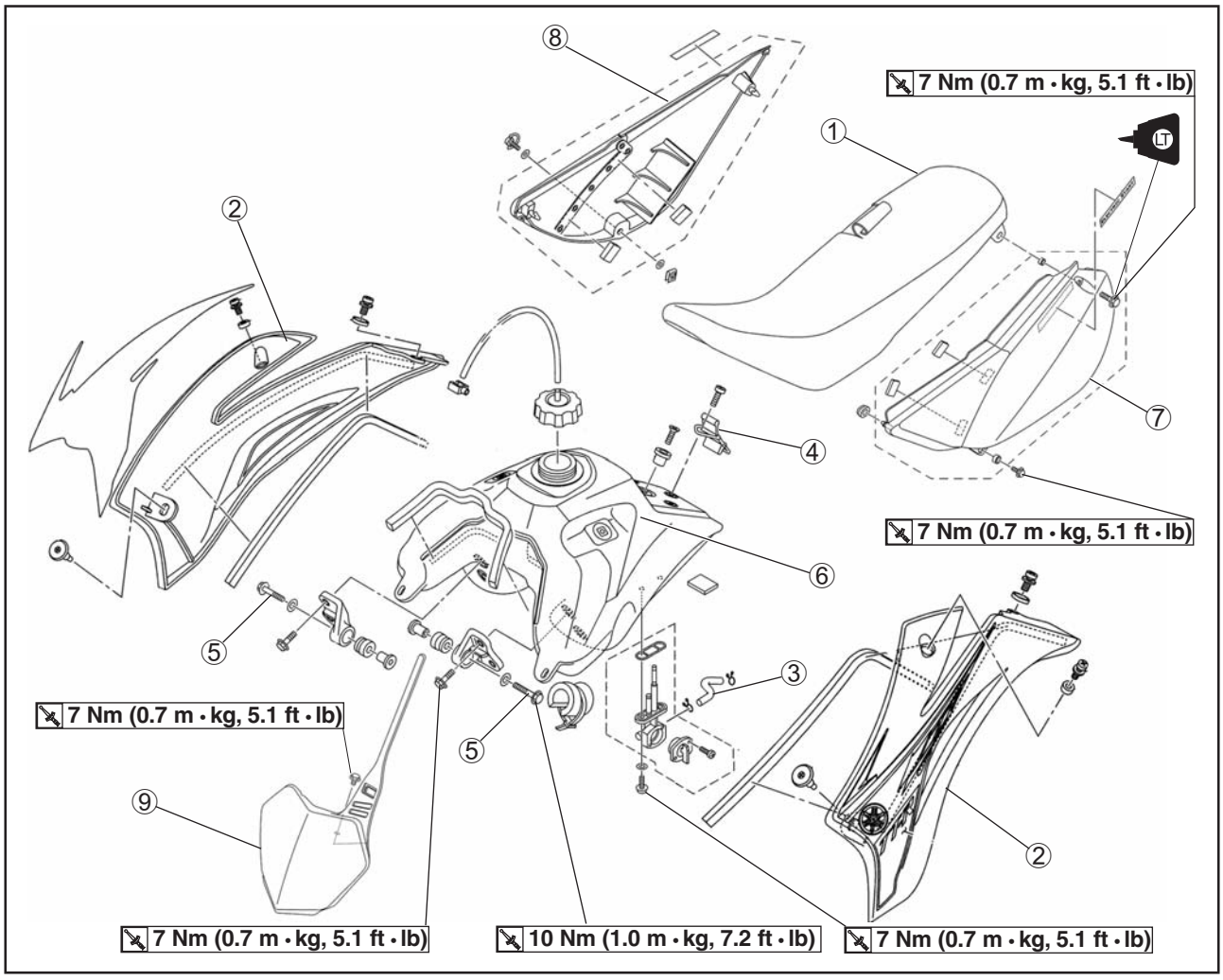
⚠ WARNING

Never use a fuse with an amperage rating other than that specified. Improvising or using a fuse with the wrong amperage rating may cause extensive damage to the electrical system, cause the starting and ignition systems to malfunction and could possibly cause a fire.

4. Install:
   - Battery cover

EC400000
ENGINE

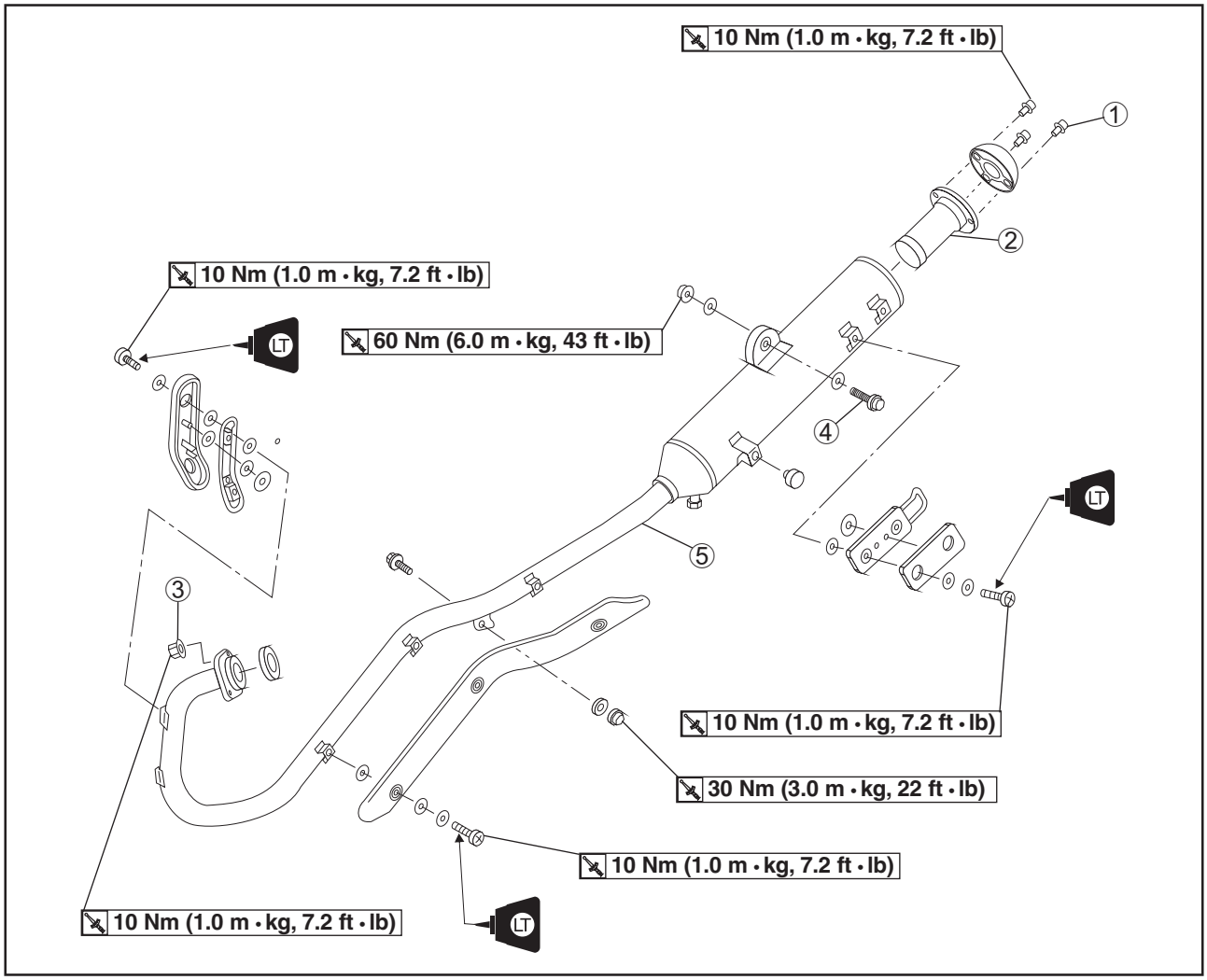
EC4R0000
SEAT, FUEL TANK AND SIDE COVERS



Extent of removal:
① Seat removal
② Fuel tank removal
③ Side covers removal
④ Number plate removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**SEAT, FUEL TANK AND SIDE COVERS REMOVAL** Turn the fuel cock to OFF		
① ② ③ ④	1	Seat	1	
	2	Air scoop (left and right)	2	
	3	Fuel hose	1	Remove on fuel tank side.
	4	Fitting band	1	
	5	Bolt (fuel tank)	2	
	6	Fuel tank	1	
	7	Left side cover	1	
	8	Right side cover	1	
	9	Number plate	1	

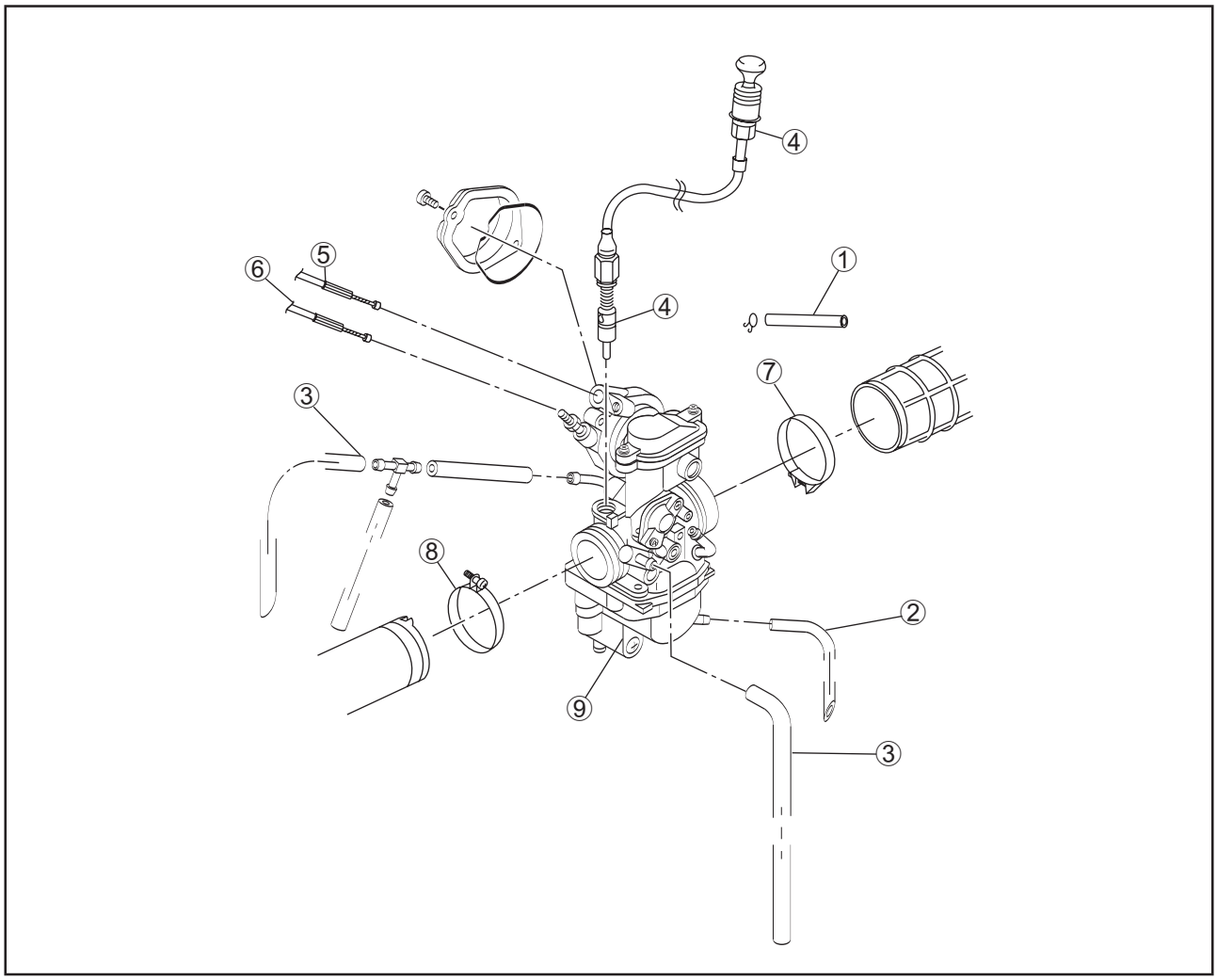
MUFFLER


10 Nm (1.0 m • kg, 7.2 ft • lb)
1
2
10 Nm (1.0 m • kg, 7.2 ft • lb)
LT
60 Nm (6.0 m • kg, 43 ft • lb)
4
LT
5
3
10 Nm (1.0 m • kg, 7.2 ft • lb)
30 Nm (3.0 m • kg, 22 ft • lb)
10 Nm (1.0 m • kg, 7.2 ft • lb)
10 Nm (1.0 m • kg, 7.2 ft • lb)
LT

Extent of removal: ① Muffler removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**MUFFLER REMOVAL** Right side cover		Refer to SEAT, FUEL TANK AND SIDE COVERS section.
①	1	Bolt (spark arrester)	3	
	2	Spark arrester	1	
	3	Nut (muffler)	2	
	4	Bolt (muffler)	1	
	5	Muffler	1	

CARBURETOR

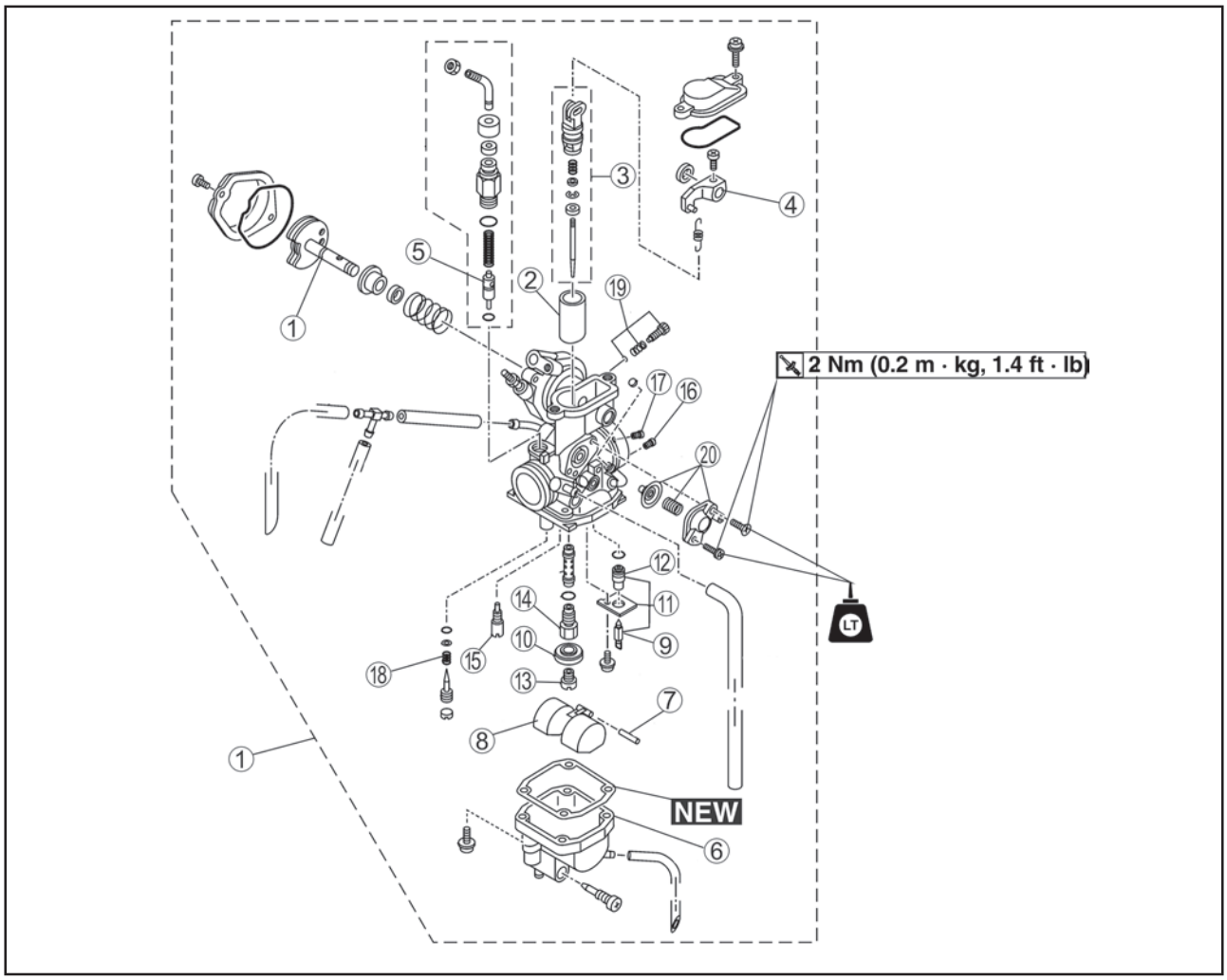


Extent of removal: ① Carburetor removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**CARBURETOR REMOVAL** Fuel tank		Refer to SEAT, FUEL TANK AND SIDE COVERS section.
①	1	Fuel hose	1	
	2	Over flow hose	1	
	3	Air vent hose	2	
	4	Starter plunger/starter knob	1	
	5	Trottle main cable	1	
	6	Trottle return cable	1	
	7	Clamp (air cleaner joint)	1	Loosen the screw (air cleaner joint)
	8	Clamp (carburetor joint)	1	Loosen the screws (carburetor joint).
	9	Carburetor	1	

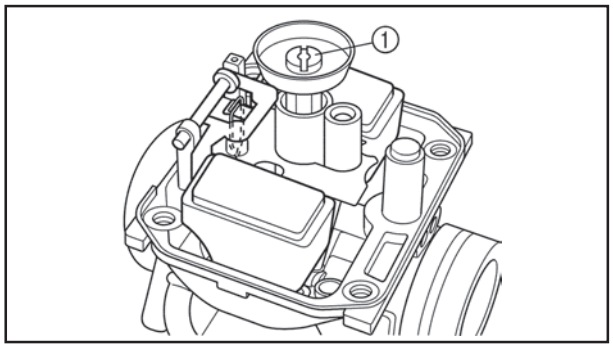
EC468000

CARBURETOR DISASSEMBLY



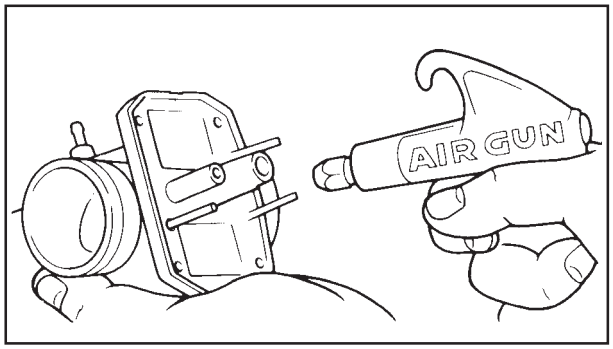
Extent of removal: ① Carburetor disassembly

Extent of removal	Order	Part name	Q'ty	Remarks
		CARBURETOR DISASSEMBLY		
①	1	Throttle shaft	1	
	2	Throttle valve	1	Refer to REMOVAL POINTS
	3	Jet needle set	1	
	4	Lever 1	1	
	5	Starter plunger	1	
	6	Float chamber	1	
	7	Float pivot pin	1	
	8	Float	1	
	9	Needle valve	1	
	10	Main jet washer	1	
	11	Needle valve seat holder	1	
	12	Needle valve seat	1	
	13	Main jet	1	
	14	Main jet nozzle	1	
	15	Pilot jet	1	
	16	Pilot air jet 1	1	
	17	Pilot air jet 2	1	
	18	Pilot air screw	1	Refer to REMOVAL POINTS
	19	Throttle stop screw	1	
	20	Coasting enricher	1	



HANDLING NOTE

At high altitudes, the atmospheric pressure is lower. This can make the fuel mixture too rich, leading to such problems as fouled.
Spark plugs and slow response at high engine speeds. A special part, High Altitude Main Jet ① #100 (620-14231-20) is available to correct this.



EC464000

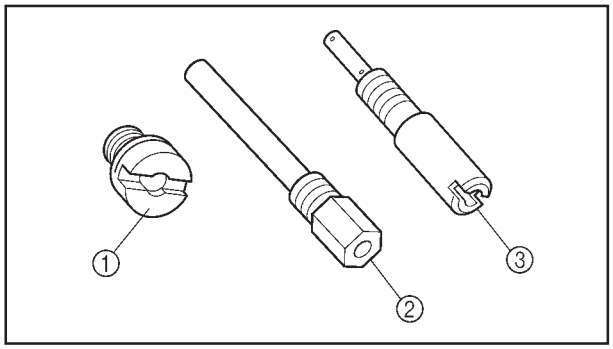
INSPECTION

Carburetor

1. Inspect:
   • Carburetor body
   Contamination → Clean.

TIP

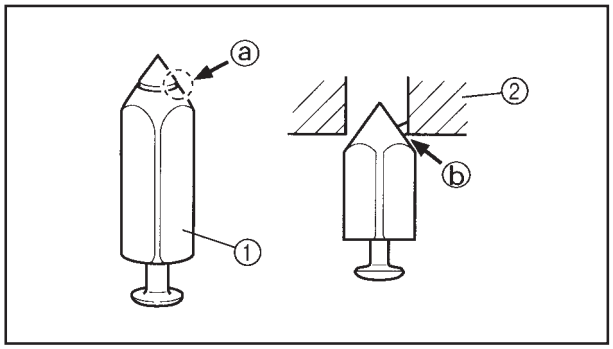
- Use a petroleum based solvent for cleaning. Blow out all passages and jets with compressed air.
- Never use a wire.



2. Inspect:
   • Main jet ①
   • Main jet nozzle ②
   • Pilot jet ③

TIP

- Use a petroleum based solvent for cleaning. Blow out all passages and jets with compressed air.
- Never use a wire.

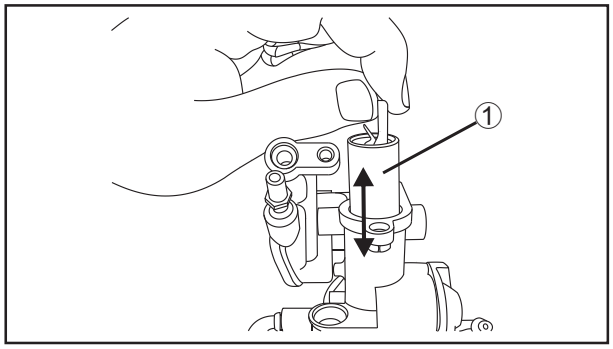


Needle valve

1. Inspect:
   • Needle valve ①
   • Needle valve seat ②
   Grooved wear ⓐ →Replace.
   Dust ⓑ → Clean.

TIP

Always replace the needle valve and needle valve seat as a set



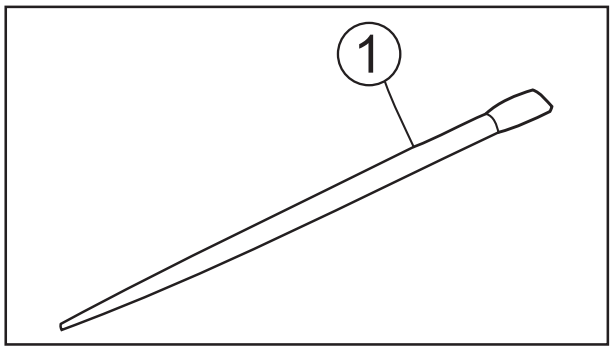
EC464301

Throttle valve

1. Check:
   - Free movement
     Stick → Repair or replace.

TIP

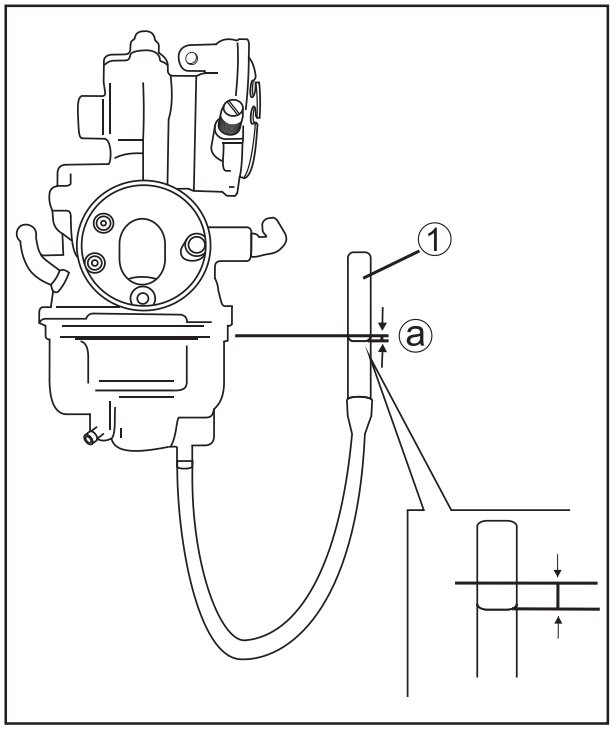
Insert the throttle valve ① into the carburetor body, and check for free movement.



EC464401

Jet needle

1. Inspect:
   - Jet needle ①
     Bends/wear → Replace.



Fuel level

1. Measure:
   - Fuel level ⓐ
     Out of specification → Adjust.

Fuel level:
6.0 ~ 7.0 mm (0.24 ~ 0.28 in)
Below the float chamber mating surface

Measurement and adjustment steps:

- Connect the fuel level gauge ① to the float chamber.

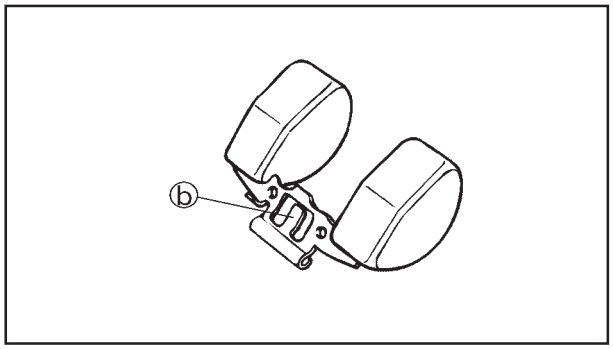
Fuel level gauge:
YM-1312-A/90890-01312

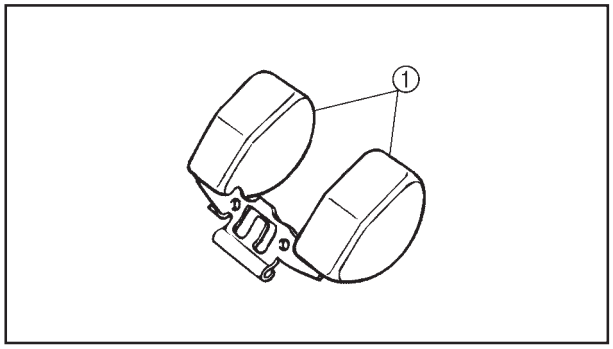
- Hold the fuel level gauge vertically next to the float chamber mating surface.
- Loosen the drain screw.
- Measure the fuel level with the fuel level gauge.

TIP

Keep the carburetor and fuel level gauge vertically when measuring the fuel level.

- If the fuel level is not within specification, inspect the needle valve seat and needle valve.
- If either is worn, replace them both.
- If both are fine, adjust the fuel level by bending the float tab ⓑ on the float.
- Recheck the fuel level.

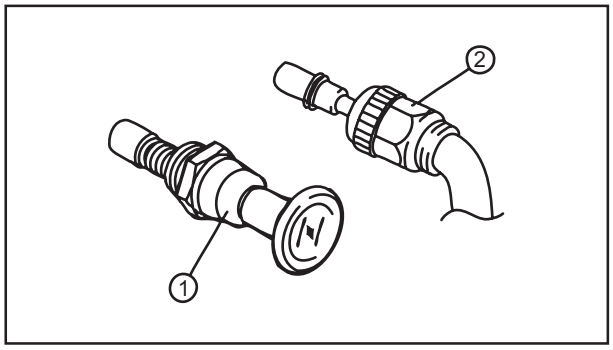




EC464600

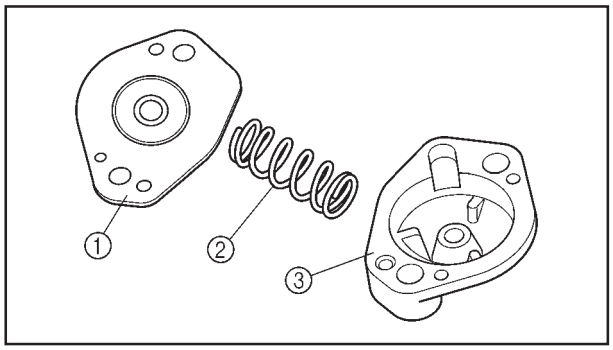
Float

1. Inspect:
   - Float ①
     Damage → Replace.



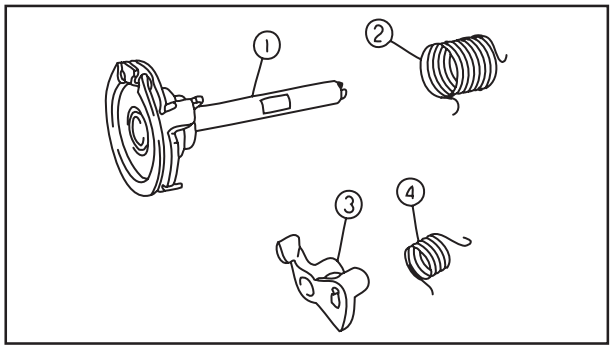
Starter plunger

1. Inspect:
   - Cold starter plunger ①
   - Hot starter plunger ②
     Wear/damage → Replace.

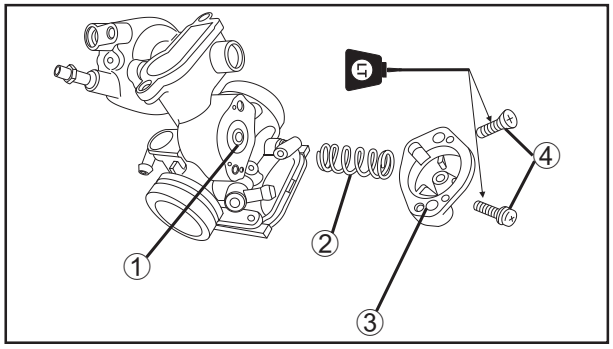


Coasting enricher

1. Inspect:
   - Diaphragm ①
   - Spring ②
   - Cover ③
     Tears (diaphragm)/damage → Replace.



2. Inspect:
   - Throttle shaft ①
   - Spring ②
   - Lever 1 ③
   - Spring 1 ④
     Dirt → Clean.

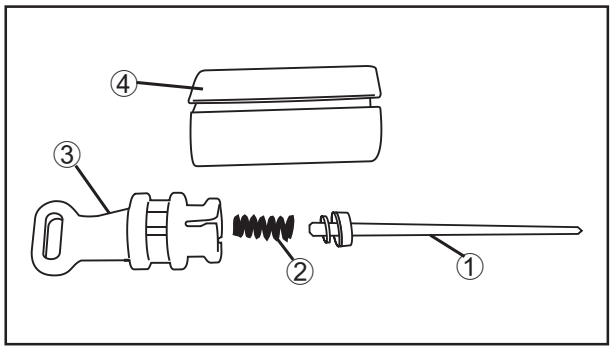


ASSEMBLY AND INSTALLATION

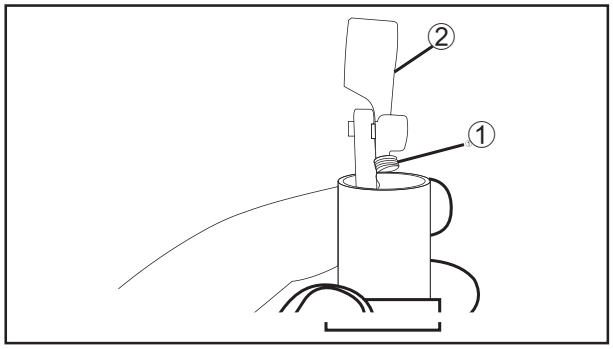
Carburetor

1. Install:
   - Diaphragm ①
   - Spring ②
   - Cover ③
   - Screw ④

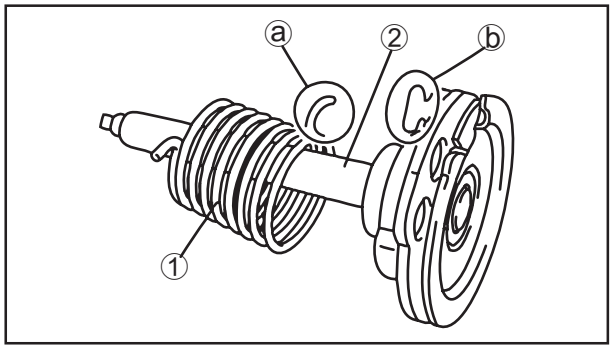
5	2 Nm (0.2 m • kg, 1.4 ft • lb)



2. Install:
   - Jet needle ①
   - Spring ②
   - Holder ③
   - Throttle valve ④



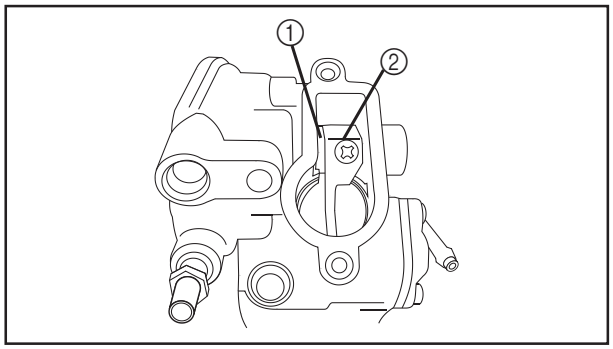
3. Install:
   - Spring 1 ①
     To lever 1 ②



4. Install:
   - Spring ①
   - To throttle shaft ②

TIP

Install the bigger hook ⓐ of the spring fits on the stopper ⓑ of the throttle shaft pulley.

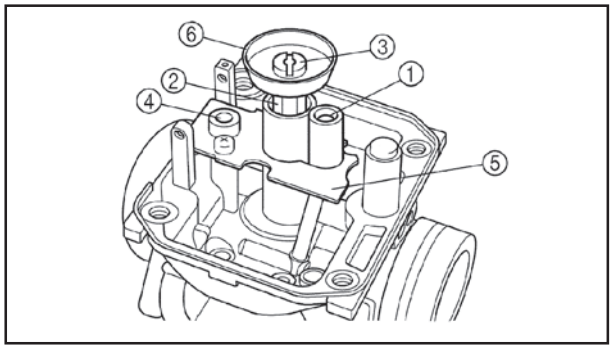


5. Install:
   - Throttle shaft assembly
   - Plain washer (resin) ①
   - Valve lever ②

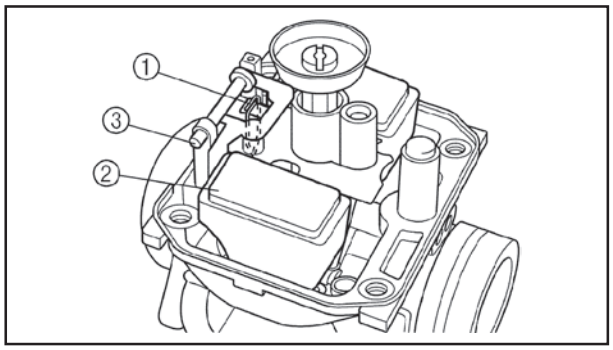
TIP

- Apply the fluorchemical grease on the bearings.
- Make sure the stopper of the TPS spring fits into the recess in the carburetor.

6. Install:
   - O-ring
   - Valve lever housing cover
   - Bolt (valve lever housing cover)



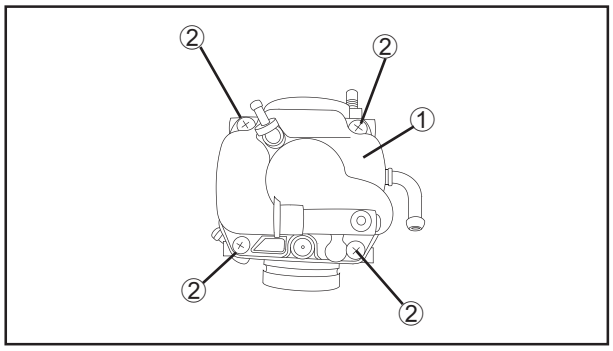
7. Install:
   - Pilot jet ①
   - Main jet nozzle ②
   - Main jet ③
   - Needle valve seat ④
   - Needle valve seat holder ⑤
   - Main jet washer ⑥



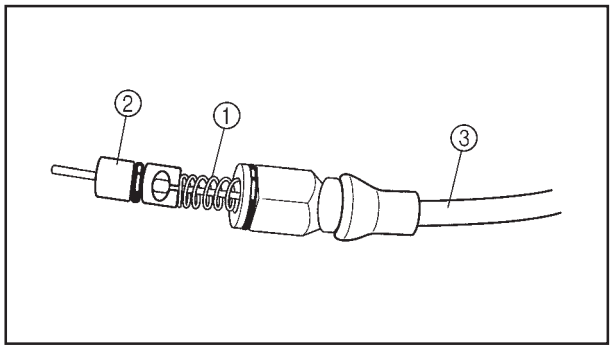
8. Install:
   - Needle valve ①
   - Float ②
   - Float pivot pin ③

TIP

- After installing the needle valve to the float, install them to the carburetor.
- Check the float for smooth movement.

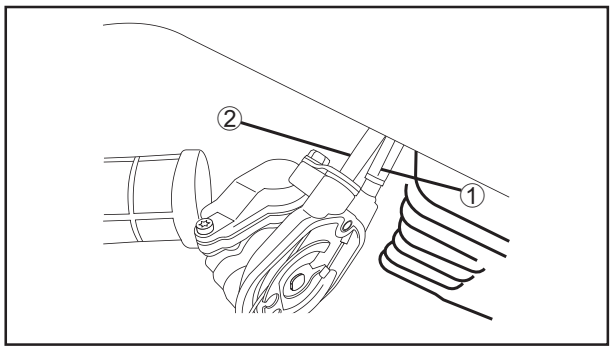


9. Install:
   - Gasket
   - Float chamber ①
   - Screw (float chamber) ②



Carburetor installation

1. Install:
   - Spring ①
   - Starter plunger ②
   - On starter cable ③



2. Install:
   - Throttle cable (pull) ①

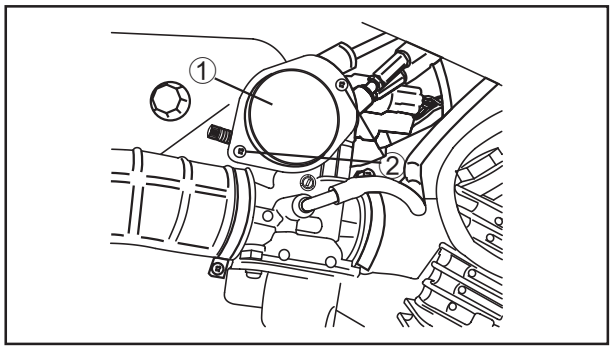
     4 Nm (0.4 m • kg, 2.9 ft • lb
   - Throttle cable (return) ②

     11 Nm (1.1 m • kg, 8.0 ft • lb)

3. Install:
   - Carburetor assembly

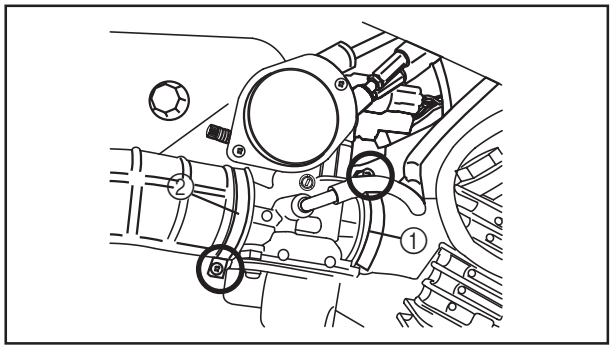
TIP

Install the projection between the carburetor joint slots.



4. Install:
   - Throttle ca ble cover ①
   - Screw (throttle cable cover) ②

4 Nm (0.4 m • kg, 2.9 ft • lb)



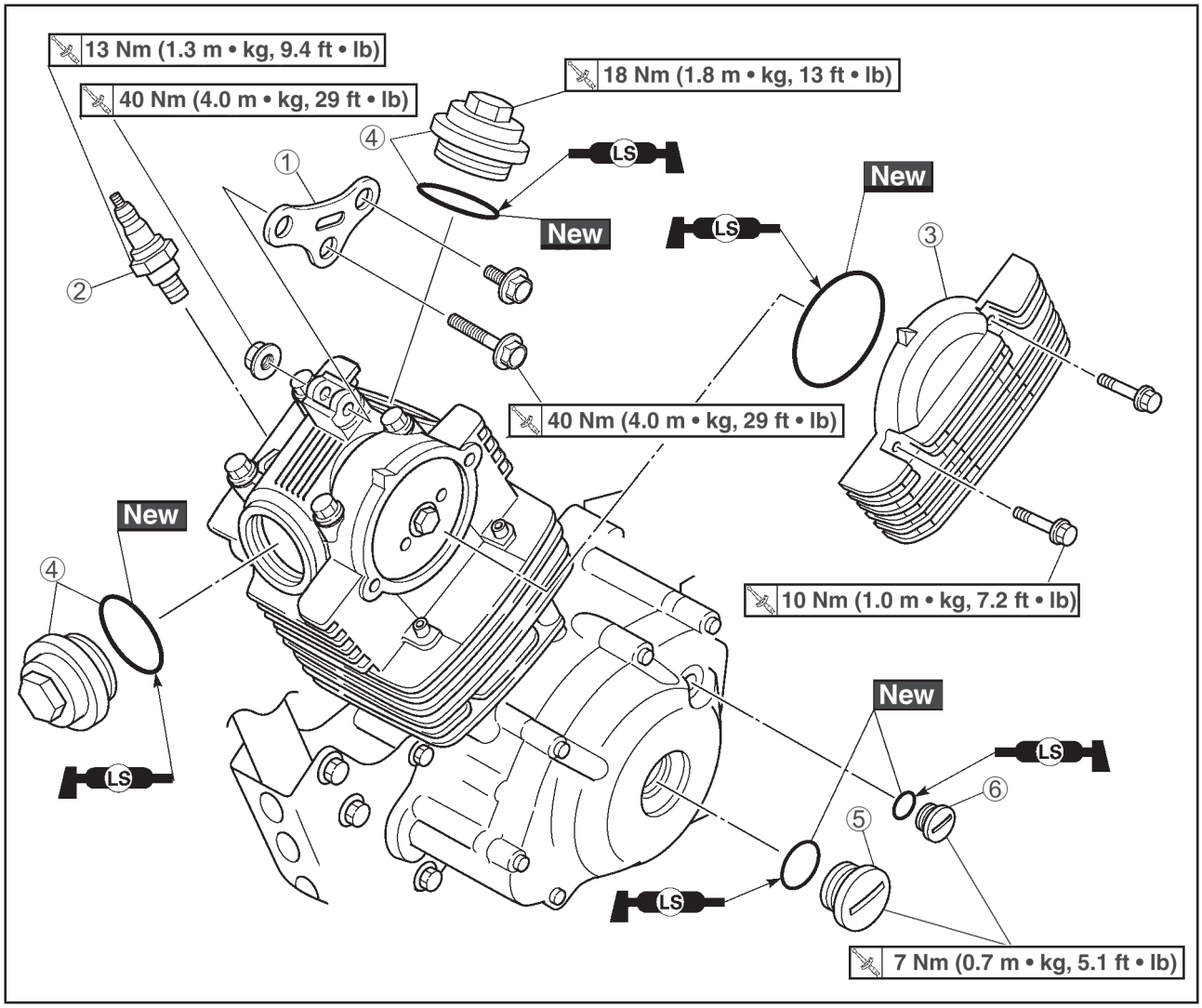
5. Tighten
   - Screw (carburetor joint) ①
   - Screw (air carburetor joint) ②

6. Adjust:
   - Throttle grip free play
     Refer to "THROTTLE CABLE ADJUSTMENT" section in the CHAPTER 3.

7. Adjust:
   - Idle speed
     Refer to ENGINE IDLING SPEED ADJUSTMENT section in the CHAPTER 3.

CYLINDER HEAD

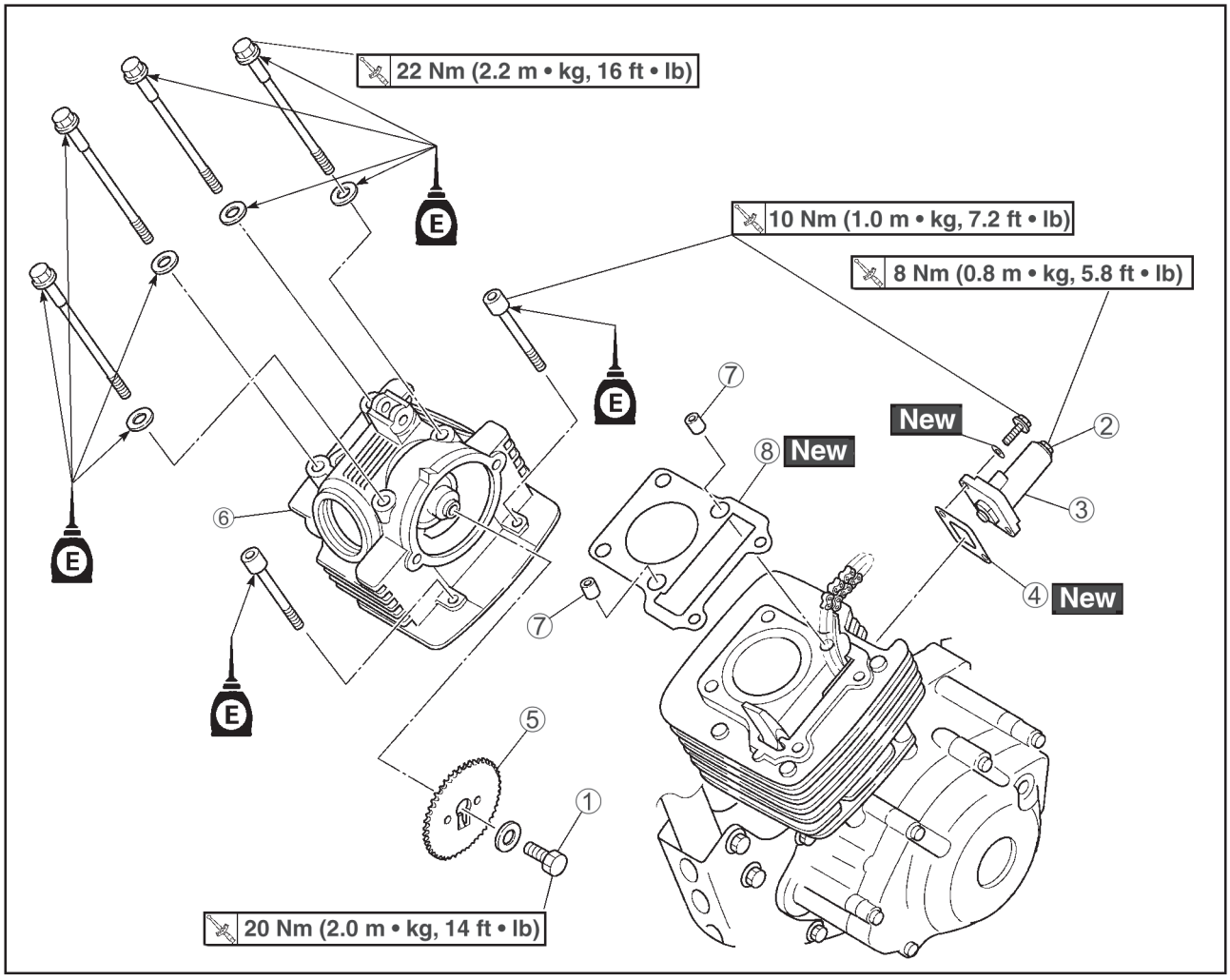
CYLINDER HEAD SIDE COVER AND TAPPET COVER


13 Nm (1.3 m • kg, 9.4 ft • lb)
40 Nm (4.0 m • kg, 29 ft • lb)
18 Nm (1.8 m • kg, 13 ft • lb)
40 Nm (4.0 m • kg, 29 ft • lb)
10 Nm (1.0 m • kg, 7.2 ft • lb)
7 Nm (0.7 m • kg, 5.1 ft • lb)
New
LS
①
②
③
④
⑤
⑥

Extent of removal: ① Cylinder head side cover and tappet cover removal

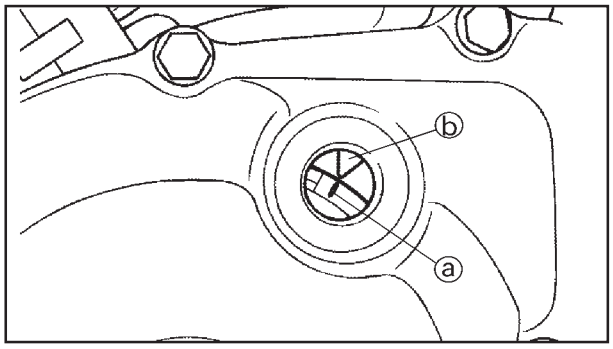
Extent of removal	Order	Part name	Q'ty	Remarks
		CYLINDER HEAD SIDE COVER AND TAPPET COVER REMOVAL		
Preparation for removal		Seat and fuel tank		Refer to SEAT, FUEL TANK AND SIDE COVERS section.
		Muffler		Refer to MUFFLER section.
		Carburetor		Refer to CARBURETOR section.
		CDI unit		Remove from the frame.
①	1	Engine bracket	1	
	2	Spark plug	1	
	3	Cylinder head side cover	1	
	4	Tappet cover	2	
	5	Crankshaft end accessing screw	1	
	6	Timing mark accessing screw	1	

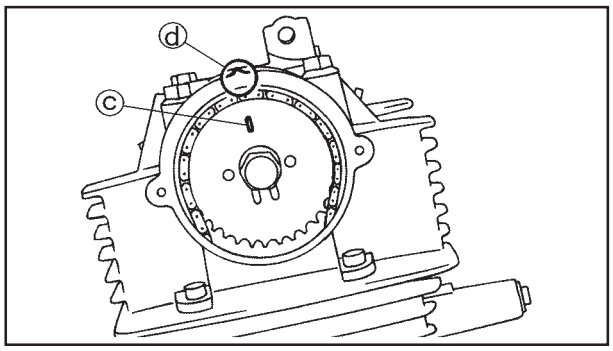
CYLINDER HEAD



Extent of removal: ① Cylinder head removal

Extent of removal	Order	Part name	Q'ty	Remarks
		CYLINDER HEAD REMOVAL		
①	1	Bolt (camshaft sprocket)	1	Refer to REMOVAL POINTS .
	2	Bolt (timing chain tensioner cap)	1	
	3	Timing chain tensioner	1	
	4	Gasket	1	
	5	Camshaft sprocket	1	
	6	Cylinder head	1	
	7	Dowel pin	2	
	8	Gasket	1	





REMOVAL POINTS

Cylinder head

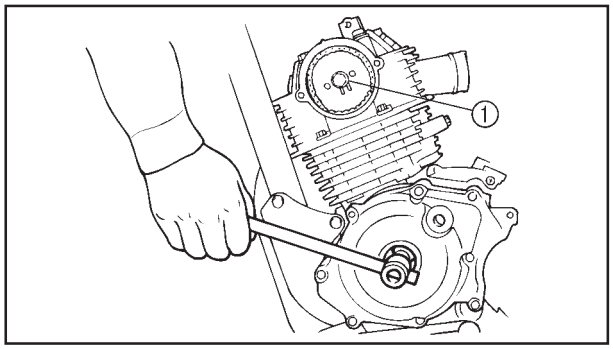
1. Align:
   - I mark
     (with stationary pointer)

Checking steps:

- Turn the crankshaft counterclockwise with wrench.
- Align the I mark ⓐ on the rotor with the stationary pointer ⓑ on the crankcase cover. When the I mark is aligned with the stationary pointer, the piston is at the Top Dead Center (T.D.C.).

TIP

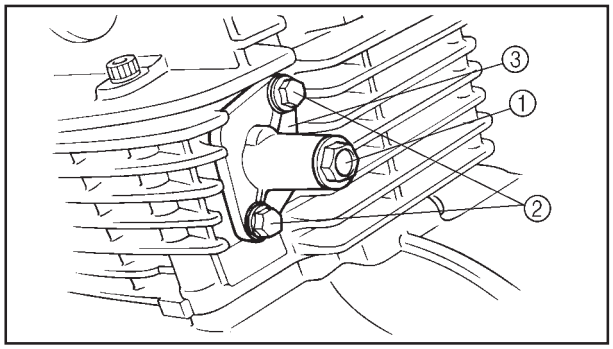
In order to be sure that the piston is at Top Dead Center, the match mark ⓒ on the camshaft sprocket must align with the stationary pointer ⓓ on the cylinder head as shown in the illustration.



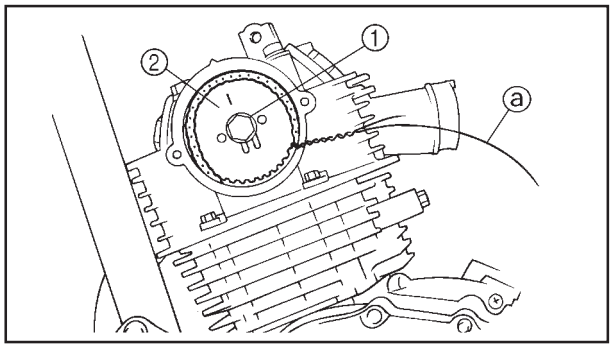
2. Loosen:
   - Camshaft sprocket bolt ①

TIP

Remove the bolt while holding the rotor nut with a wrench.



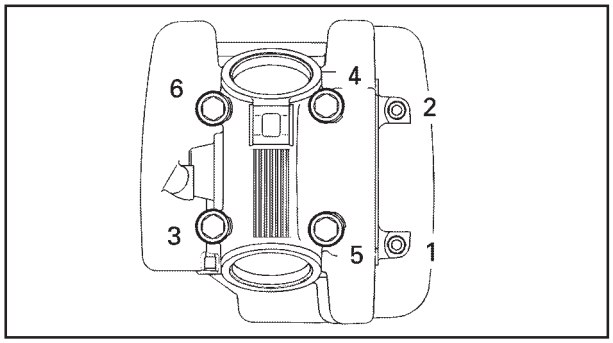
3. Remove:
   - Bolt (timing chain tensioner cap) ①
   - Bolt (timing chain tensioner) ②
   - Timing chain tensioner ③



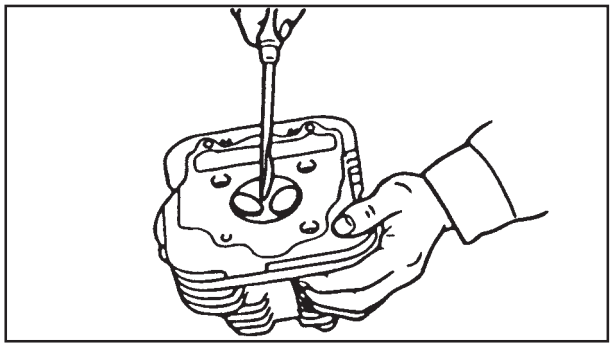
4. Remove:
   - Bolt (camshaft sprocket) ①
   - Camshaft sprocket ②

TIP
Attach a wire ⓐ to the timing chain to prevent it from falling into the crankcase.

5. Remove:
   - Bolts (cylinder head)
   - Cylinder head



TIP
- Loosen the bolts 1/4 turn each and remove then after all are loosened.
- Loosen the bolts starting with the lowest number one.



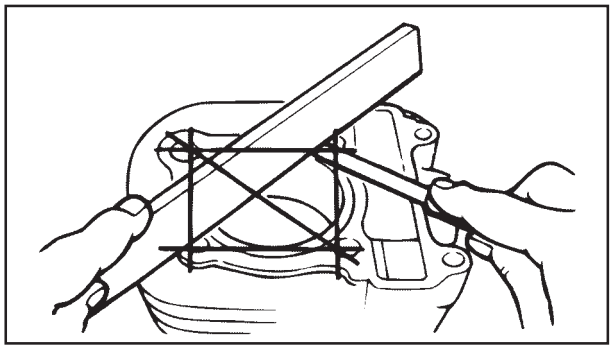
INSPECTION

Cylinder head

1. Eliminate:
   - Carbon deposits (from the combustion chambers)
     Use a rounded scraper.

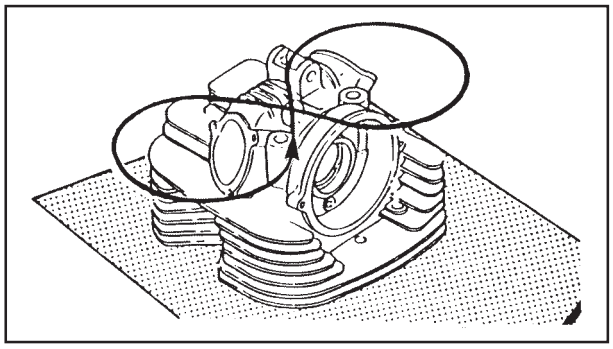
TIP
Do not use a sharp instrument to avoid damaging or scratching:
- Spark plug threads
- Valve seats

2. Inspect:
   - Cylinder head
     Scratches/damage → Replace.



3. Inspect:
   - Cylinder head warpage
     Out of specification → Re-surface.

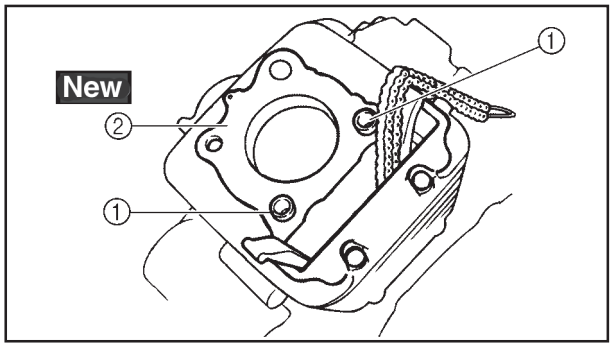
Warpage measurement and re-surfacing steps:
- Attach a straightedge and a thickness gauge on the cylinder head.
- Measure the warpage.



Warpage limit:
0.03 mm (0.0012 in)

- If the warpage is out of specification, resurface the cylinder head.
- Place #400 ~ 600 grit wet sandpaper on the surface plate, and re-surface the head using a figure-eight sanding pattern.

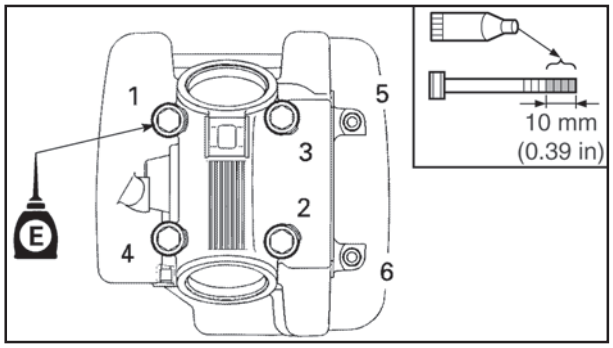
TIP
Rotate the cylinder head several times to avoid removing too much material from one side.



ASSEMBLY AND INSTALLATION

Cylinder head

1. Install:
   - Dowel pin ①
   - Gasket ② **New**

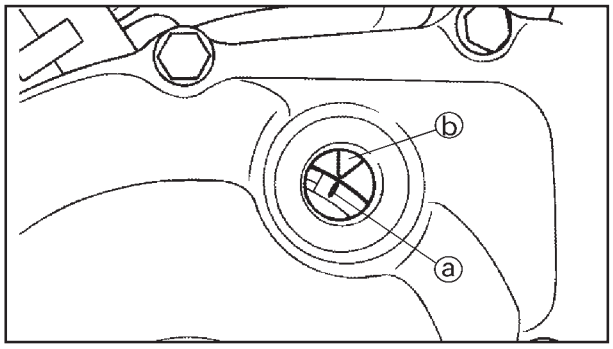


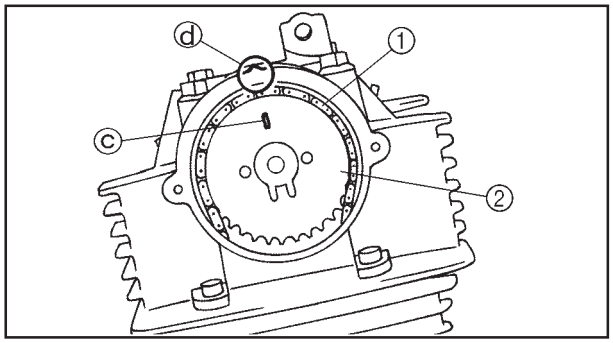
2. Install:
   - Cylinder head
   - Copper washer
   - Bolt (cylinder head)

	M8	**22 Nm (2.2 m • kg, 16 ft • lb)**
	M6	**10 Nm (1.0 m • kg, 7.2 ft • lb)**

TIP
- Apply Quick gasket® (YAMAHA Bond No.1215) on end of the cylinder head bolts (M6), as shown.
- Apply the engine oil on the contact surfaces of the bolts (cylinder head) and copper washers.
- Follow the numerical order shown in the illustration. Tighten the bolts in two stages.

Quick gasket®:
ACC-QUICK-GS-KT
YAMAHA Bond No.1215:
90890-85505





3. Install:
   - Timing chain
   - Camshaft sprocket

Installation steps:

- Turn the crankshaft counterclockwise with a wrench.
- Align the I mark ⓐ on the rotor with the stationary pointer ⓑ on the crankcase cover.
- Align the match mark ⓒ on the camshaft sprocket with the stationary pointer ⓓ on the cylinder head.
- Fit the timing chain ① onto camshaft sprocket ② and install the camshaft sprocket on the camshaft.

TIP

When installing the camshaft sprocket, keep the timing chain as tense as possible on the exhaust side.

NOTICE

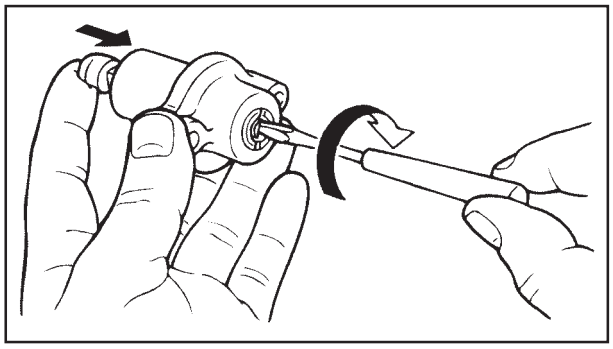
Do not turn the crankshaft during installation of the camshaft. Damage or improper valve timing will result.

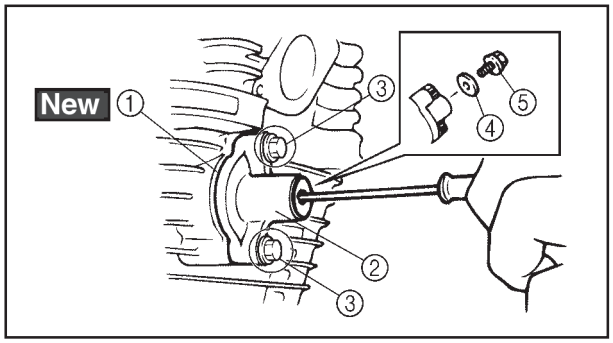
- Remove the safety wire from the timing chain.

4. Install:
   - Washer
   - Bolt (camshaft sprocket)

TIP

Temporarily tighten the bolt (camshaft sprocket) at this point.





5. Install:
   - Timing chain tensioner

Installation steps:

- While pressing the tensioner rod lightly with fingers, use a thin screwdriver and wind the tensioner rod up fully clockwise.
- With the rod fully wound, install the gasket ① and the chain tensioner ②, and tighten the bolts ③ to the specified torque.

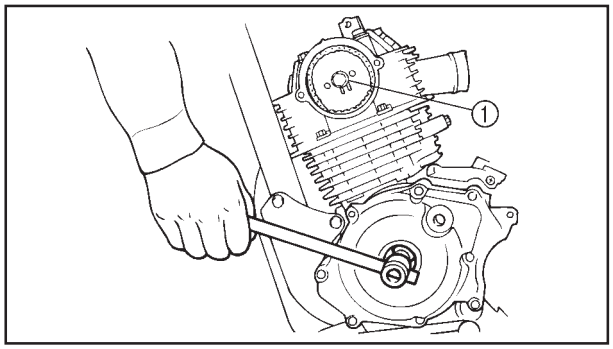
Bolt (chain tensioner): 10 Nm (1.0 m • kg, 7.2 ft • lb)

- Release the screwdriver, check the tensioner rod to come out and tighten the gasket ④ and the cap bolt ⑤ to the specified torque.

Cap bolt (timing chain tensioner): 8 Nm (0.8 m • kg, 5.8 ft • lb)

6. Turn:
   - Crankshaft
     Counterclockwise several turns

7. Check:
   - Rotor I mark
     Align with the crankcase stationary pointer.
   - Camshaft match mark
     Align with the cylinder head stationary pointer.
     Out of alignment → Adjust.



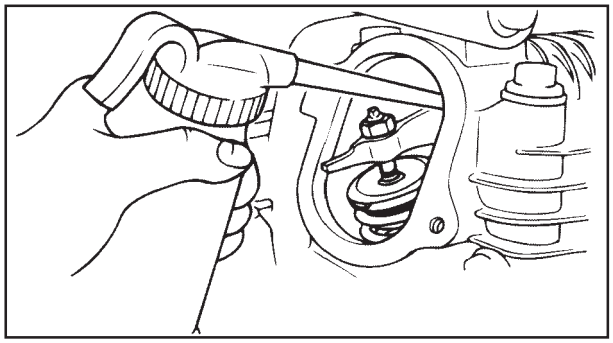
8. Tighten:
   - Bolt ①

20 Nm (2.0 m · kg, 14 ft · lb)

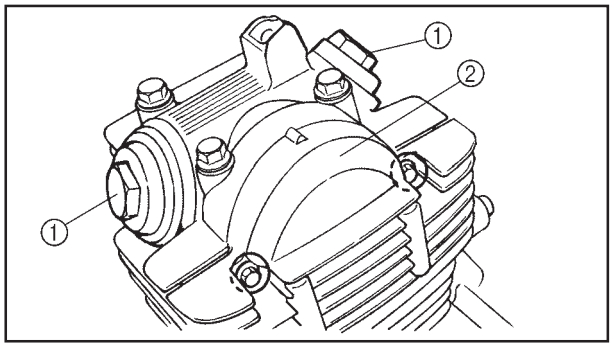
TIP

Tighten the bolt while holding the rotor nut with a wrench.

9. Check:
   - Valve clearance
     Out of specification → Adjust.
     Refer to VALVE CLEARANCE INSPECTION AND ADJUSTMENT section in the CHAPTER 3.



10. Apply:
    - Engine oil
      On camshaft.

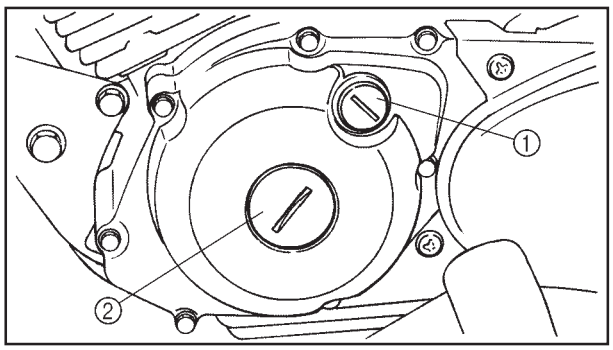


11. Install:
    - Tappet cover ①

      18 Nm (1.8 m · kg, 13 ft · lb)

    - Cylinder head side cover ②

      10 Nm (1.0 m · kg, 7.2 ft · lb)



12. Install:
    - Timing mark accessing screw ①

      7 Nm (0.7 m · kg, 5.1 ft · lb)

    - Crankshaft end accessing screw ②

      7 Nm (0.7 m · kg, 5.1 ft · lb)

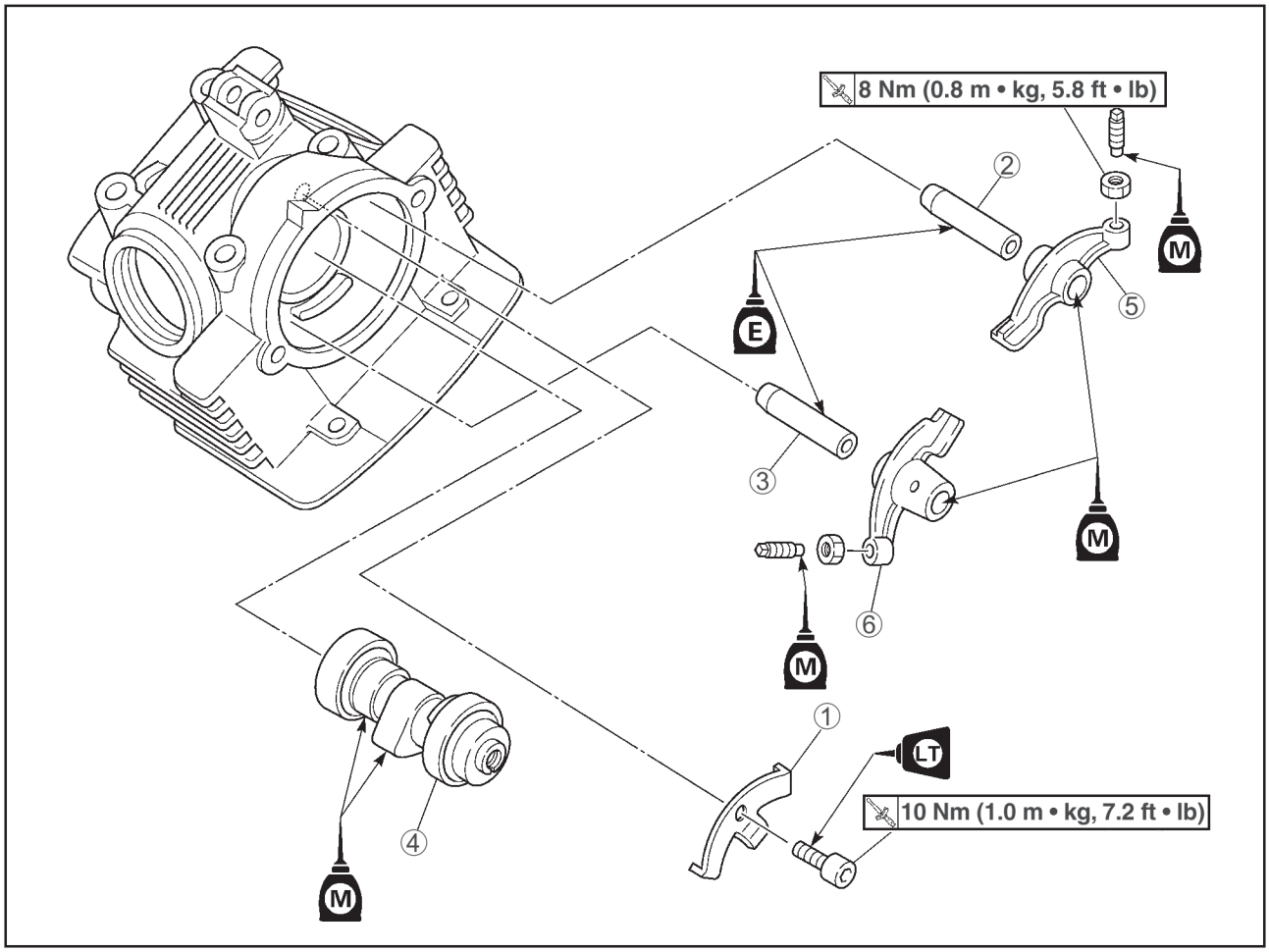
13. Install:
    - Spark plug

      13 Nm (1.3 m · kg, 9.4 ft · lb)

    - Engine bracket

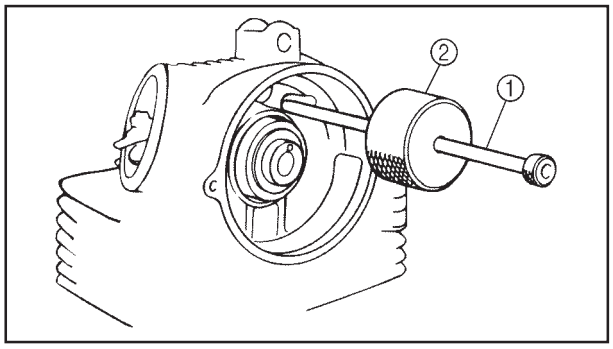
      40 Nm (4.0 m · kg, 29 ft · lb)

CAMSHAFT AND ROCKER ARMS



Extent of removal: ① Camshaft removal ② Rocker arm removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**CAMSHAFT AND ROCKER ARMS REMOVAL** Cylinder head		Refer to CYLINDER HEAD section.
① ②	1	Camshaft bearing holder	1	Refer to REMOVAL POINTS.
	2	Intake rocker arm shaft	1	
	3	Exhaust rocker arm shaft	1	
	4	Camshaft	1	
	5	Intake rocker arm	1	
	6	Exhaust rocker arm	1	



REMOVAL POINTS

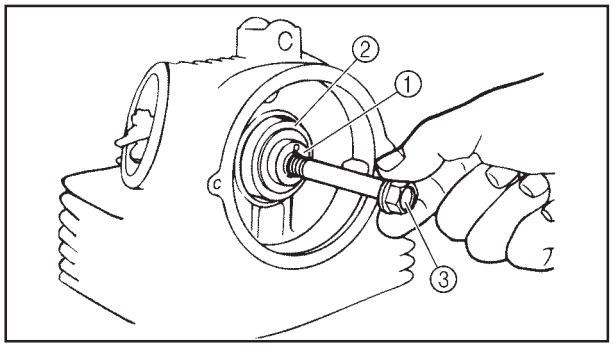
Rocker arm shaft

1. Remove:
   - Rocker arm shafts

TIP

Use a slide hammer bolt ① and weight ② to slide out the rocker arm shafts.

Small slide hammer set:
YU-1083-A
Slide hammer bolt:
90890-01085
Weight:
90890-01084

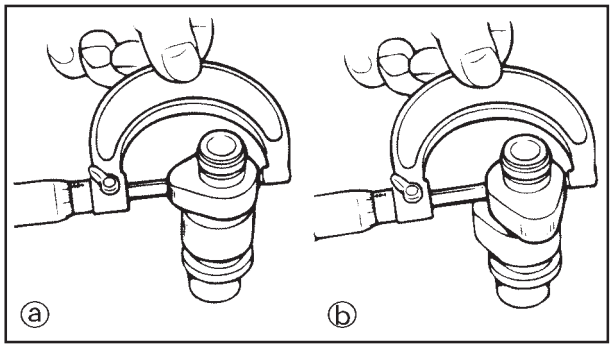


Camshaft

1. Remove:
   - Camshaft ①
   - Camshaft bearing ②

TIP

Screw in a suitable length of 8 mm bolt ③ into the threaded end of the camshaft and pull out the camshaft.

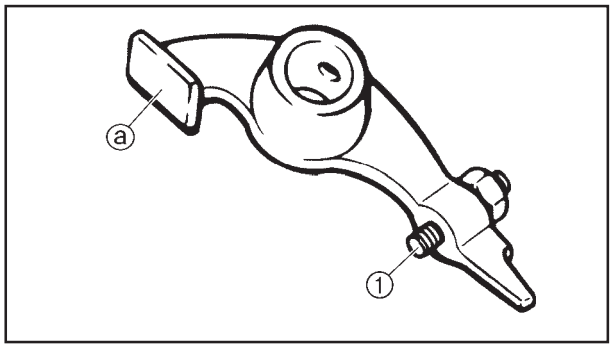


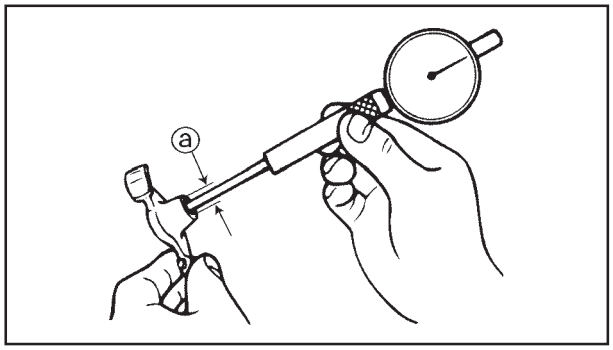
INSPECTION

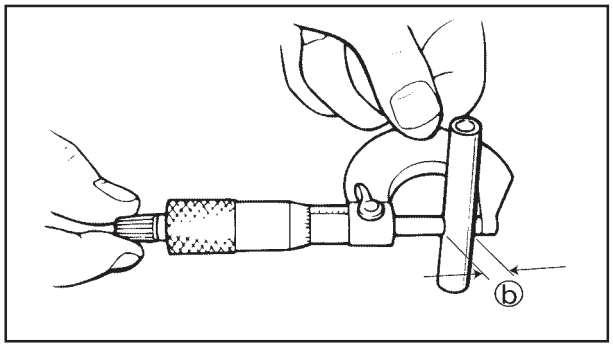
Camshaft

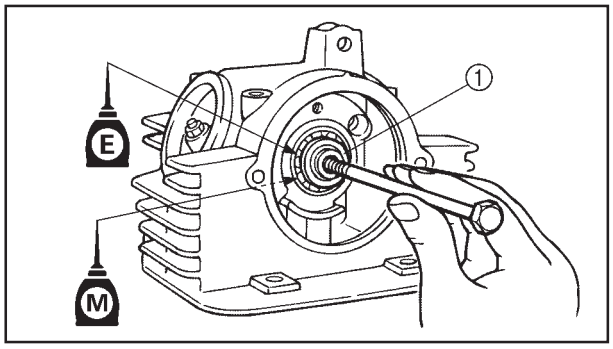
1. Inspect:
   - Cam lobes
     Pitting/scratches/blue discoloration → Replace.
2. Measure:
   - Cam lobes length ⓐ and ⓑ
     Out of specification → Replace.

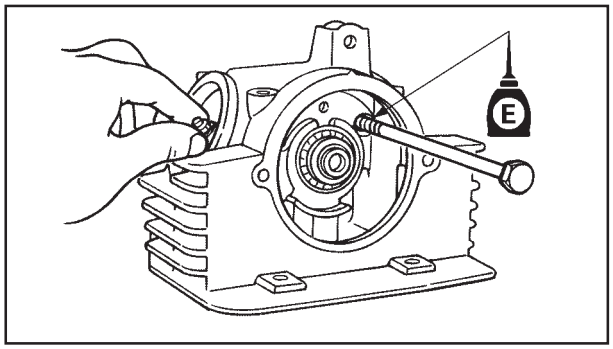
Cam lobes length limit:
Intake:
ⓐ 25.851 mm (1.0178 in)
ⓑ 21.165 mm (0.8333 in)
Exhaust:
ⓐ 25.811 mm (1.0162 in)
ⓑ 21.020 mm (0.8276 in)











Rocker arms and rocker arm shafts

1. Inspect:
   - Cam lobe contact surface ⓐ
   - Adjuster surface ①
   Wear/pitting/scratches/blue discoloration → Replace.

Measurement steps:

- Measure the inside diameter ⓐ of the rocker arm holes.
  Out of specification → Replace.

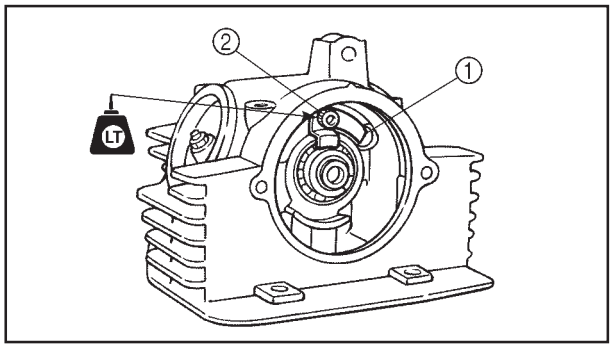
Inside diameter (rocker arm):
10.000 ~ 10.015 mm
(0.3937 ~ 0.3943 in)
<Limit>: 10.03 mm (0.3949 in)

- Measure the outside diameter ⓑ of the rocker arm shafts.
  Out of specification → Replace.

Outside diameter (rocker arm shaft):
9.981 ~ 9.991 mm
(0.3930 ~ 0.3933 in)
<Limit>: 9.95 mm (0.3917 in)

ASSEMBLY AND INSTALLATION

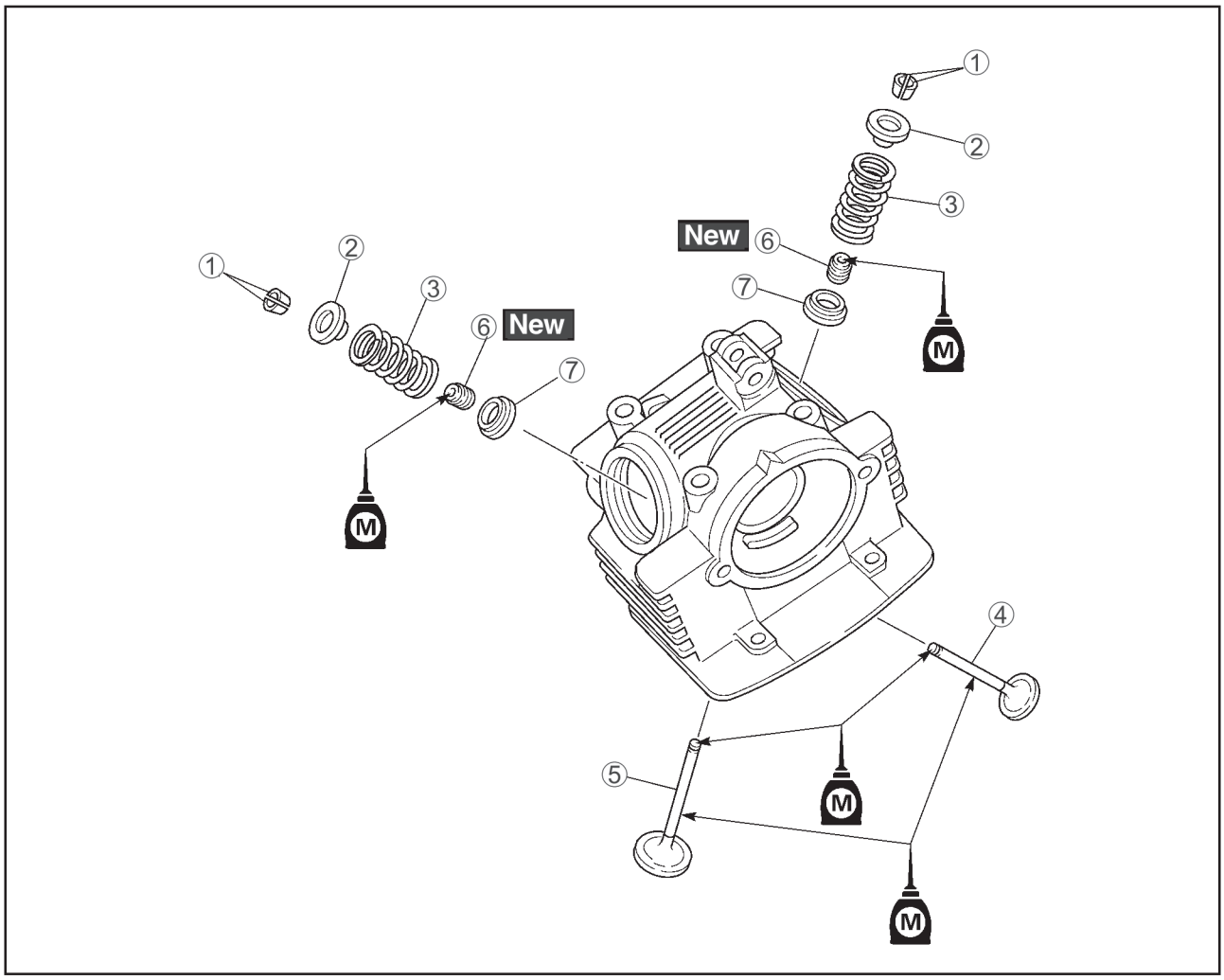
1. Apply:
   - Molybdenum disulfide oil
     (onto the camshaft cam lobe and rocker arm hole)
   - Engine oil
     (onto the camshaft bearing)
2. Install:
   - Rocker arms
   - Camshaft ①
3. Apply:
   - Engine oil
     (onto the rocker arm shaft)
4. Install:
   - Rocker arm shaft



5. Install:
   - Camshaft bearing holder ①
   - Bolt ②

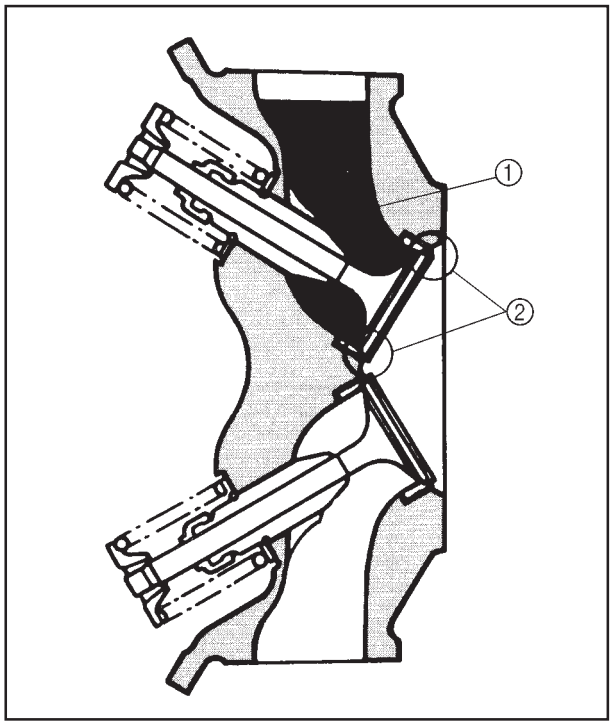
10 Nm (1.0 m · kg, 7.2 ft · lb)

VALVES AND VALVE SPRINGS



Extent of removal: ① Valves and valve springs removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**VALVES AND VALVE SPRINGS REMOVAL** Cylinder head Camshaft and rocker arms		Refer to CYLINDER HEAD section. Refer to CAMSHAFT AND ROCKER ARMS section.
①	1	Valve cotter	4	Refer to REMOVAL POINTS .
	2	Valve spring retainer	2	
	3	Valve spring	2	
	4	Intake valve	1	
	5	Exhaust valve	2	
	6	Valve stem seal	2	
	7	Valve spring seat	2	



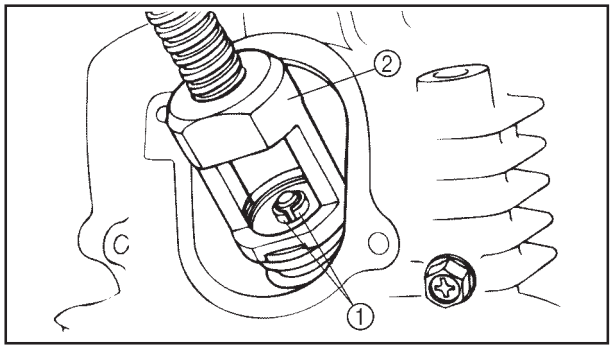
REMOVAL POINTS

Valve

1. Check:
   - Valve sealing
     Leakage at the valve seat → Inspect the valve face, valve seat and valve seat width.

Checking steps:

- Pour a clean solvent ① into the intake and exhaust ports.
- Check that the valve seals properly.
  There should be no leakage at the valve seat ②.

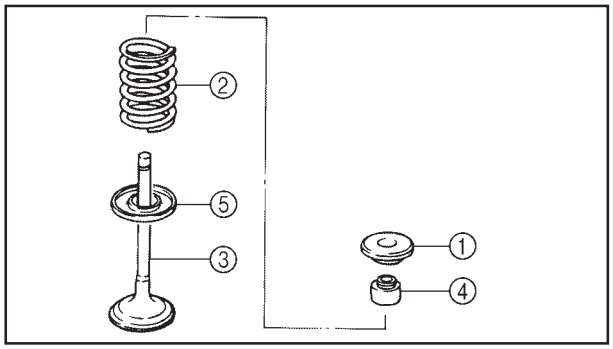


2. Remove:
   - Valve cotters ①

TIP

Attach a valve spring compressor ② between the valve spring retainer and the cylinder head to remove the valve cotters.

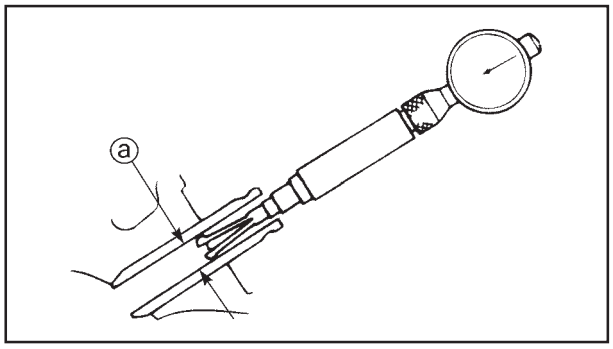
	Valve spring compressor: YM-4019/90890-04019

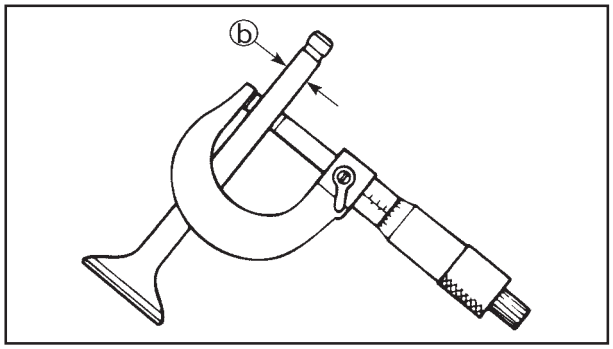


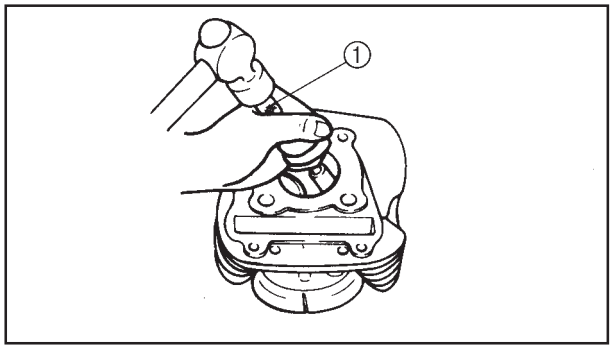
3. Remove:
   - Valve spring retainer ①
   - Valve spring ②
   - Valve ③
   - Valve stem seal ④
   - Valve spring seat ⑤

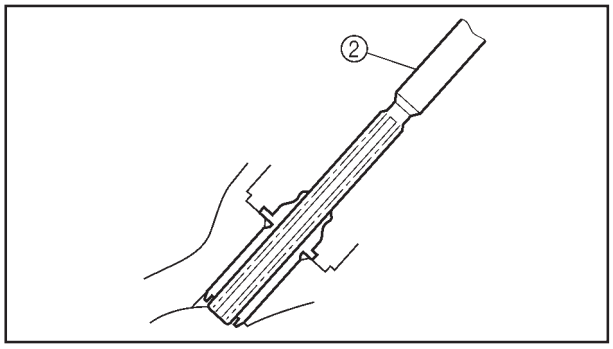
TIP

Identify the position of each part very carefully so that it can be reinstalled in its original place.









INSPECTION

Valve

1. Measure:
   - Stem-to-guide clearance

Stem-to-guide clearance =
valve guide inside diameter ⓐ -
valve stem diameter ⓑ

Out of specification → Replace the valve guide.

Clearance (stem to guide):
Intake:
0.010 ~ 0.037 mm
(0.0004 ~ 0.0015 in)
<Limit>: 0.08 mm (0.0031 in)
Exhaust:
0.025 ~ 0.052 mm
(0.0010 ~ 0.0020 in)
<Limit>: 0.10 mm (0.0040 in)

2. Replace:
   - Valve guide

Replacement steps:

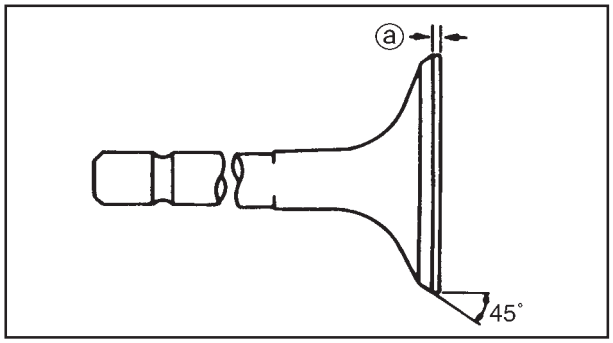
TIP
To ease guide removal, installation and to maintain correct fit heat the cylinder head in an over to 100 °C (212 °F).

- Remove the valve guide using a valve guide remover ①.
- Install the new valve guide using a valve guide remover and valve guide installer.
- After installing the valve guide, bore the valve guide using a valve guide reamer ② to obtain proper stem-to-guide clearance.

Valve guide remover:
YM-4097/90890-04097
Valve guide installer:
YM-4098/90890-04098
Valve guide reamer:
YM-04099/90890-04099

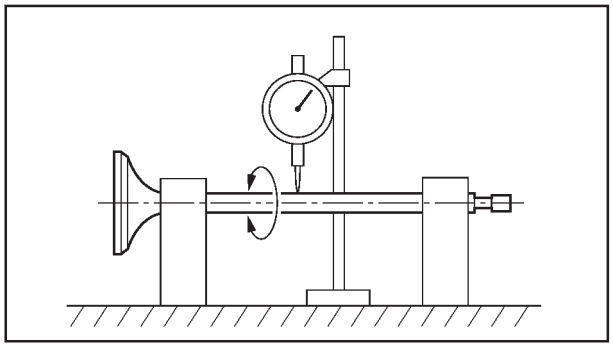
TIP
After replacing the valve guide reface the valve seat.

3. Inspect:
   - Valve face
     Pitting/wear → Grind the face.
   - Valve stem end
     Mushroom shape or diameter larger than the body of the stem → Replace.



4. Measure:
   - Margin thickness ⓐ
     Out of specification → Replace.

Margin thickness:
Intake:
0.4 ~ 0.8 mm
(0.0157 ~ 0.0315 in)
Exhaust:
0.8 ~ 1.2 mm
(0.0315 ~ 0.0472 in)



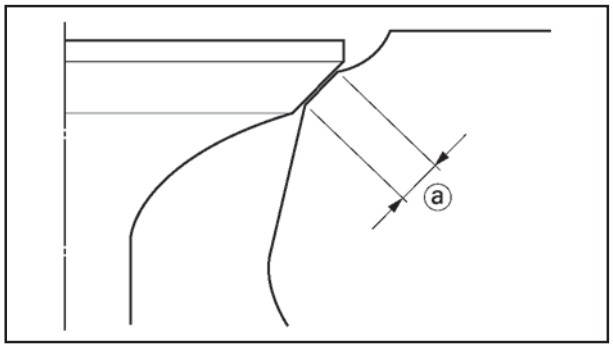
5. Measure:
   - Runout (valve stem)
     Out of specification → Replace.

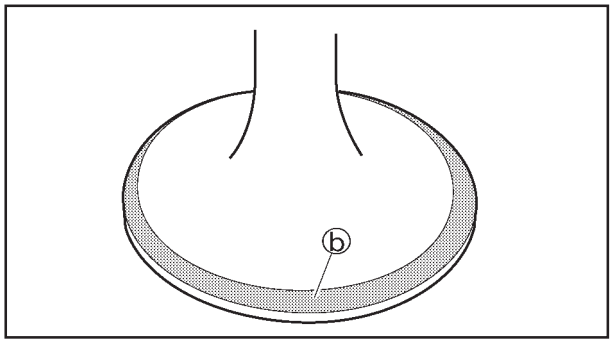
Runout limit:
0.01 mm (0.0004 in)

TIP
- When installing a new valve always replace the guide.
- If the valve is removed or replaced always replace the oil seal.

6. Eliminate:
   - Carbon deposits
     (from the valve face and valve seat)

7. Inspect:
   - Valve seats
     Pitting/wear → Reface the valve seat.





8. Measure:
   - Valve seat width a
     Out of specification → Reface the valve seat.

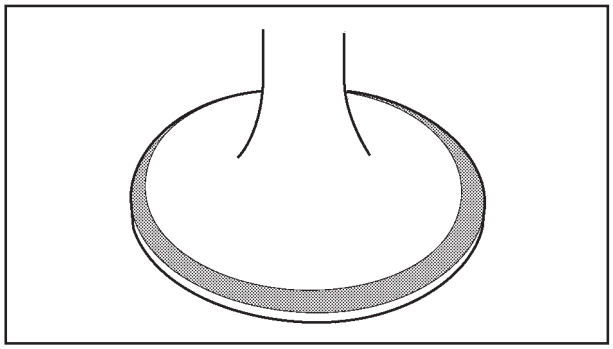
Valve seat width:
Intake:
0.9 ~ 1.1 mm (0.0354 ~ 0.0433 in)
<Limit>: 1.6 mm (0.0630 in)
Exhaust:
0.9 ~ 1.1 mm (0.0354 ~ 0.0433 in)
<Limit>: 1.6 mm (0.0630 in)

Measurement steps:

- Apply Mechanic's blueing dye (Dykem) ⓑ to the valve face.
- Install the valve into the cylinder head.
- Press the valve through the valve guide and onto the valve seat to make a clear pattern.
- Measure the valve seat width. Where the valve seat and valve face made contact, blueing will have been removed.
- If the valve seat is too wide, too narrow, or the seat is not centered, the valve seat must be refaced.

9. Lap:
   - Valve face
   - Valve seat

TIP
After refacing the valve seat or replacing the valve and valve guide, the valve seat and valve face should be lapped.



Lapping steps:

- Apply a coarse lapping compound to the valve face.

NOTICE

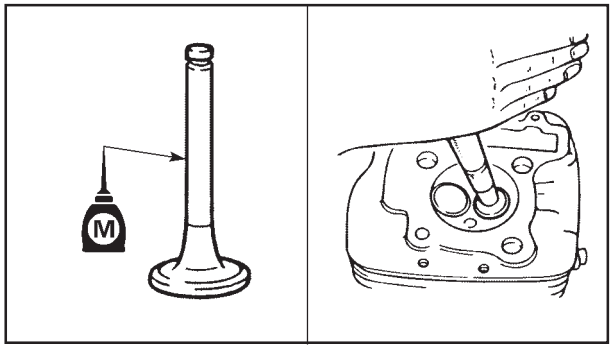
Do not let the compound enter the gap between the valve stem and the valve guide.

- Apply molybdenum disulfide oil to the valve stem.

- Install the valve into the cylinder head.
- Turn the valve until the valve face and valve seat are evenly polished, then clean off all of the compound.

TIP

For best lapping results, lightly tap the valve seat while rotating the valve back and forth between your hands.

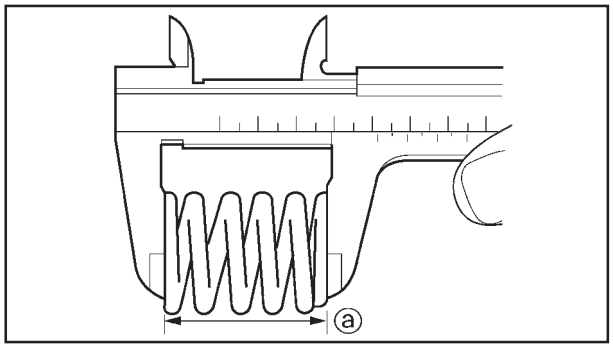


- Apply a fine lapping compound to the valve face and repeat the above steps.

TIP

After every lapping operation be sure to clean off all of the compound from the valve face and valve seat.

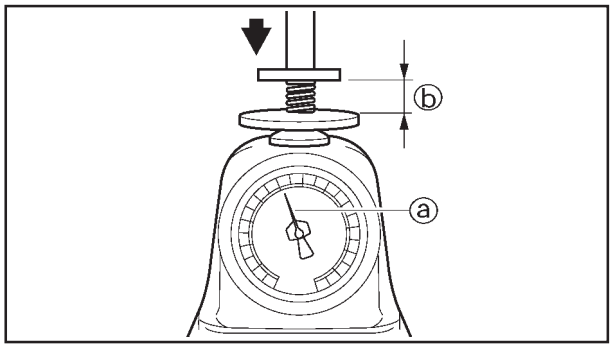
- Apply Mechanic's blueing dye (Dykem) to the valve face.
- Install the valve into the cylinder head.
- Press the valve through the valve guide and onto the valve seat to make a clear pattern.
- Measure the valve seat width again. If the valve seat width is out of specification, reface and re-lap the valve seat.

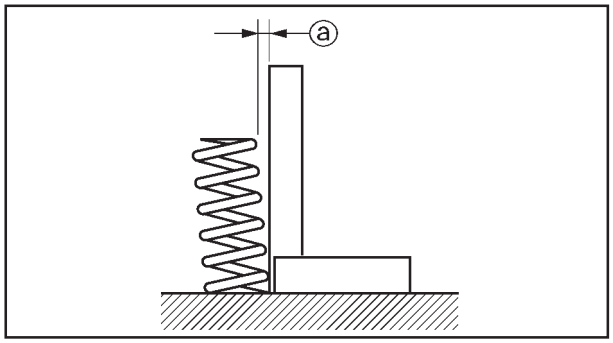


Valve spring

1. Measure:
   - Valve spring free length ⓐ
     Out of specification → Replace.

Free length (valve spring):
Intake:
38.78 mm (1.52 in)
<Limit>: 36.84 mm (1.45 in)
Exhaust:
38.78 mm (1.52 in)
<Limit>: 36.84 mm (1.45 in)





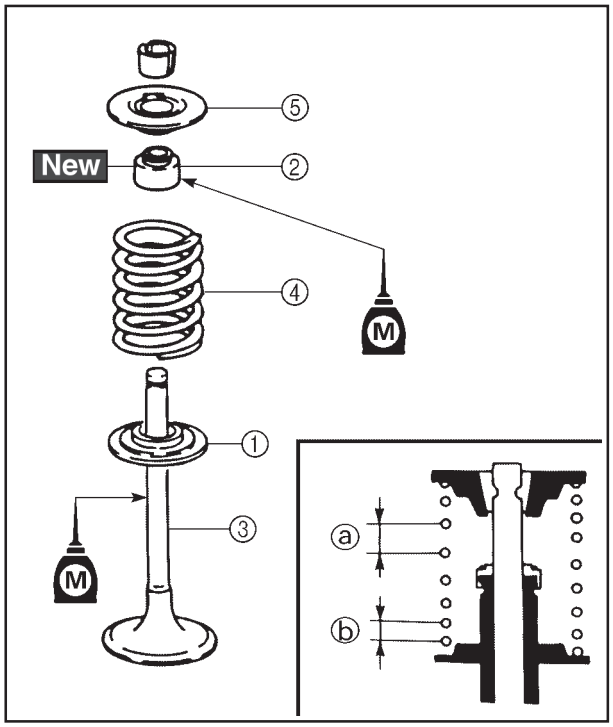
2. Measure:
   - Compressed spring force ⓐ
     Out of specification → Replace.

ⓑ Installed length

Compressed spring force:
Intake:
19.5 ~ 22.3 kgf at 25.6 mm
(42.93 ~ 49.23 lbf at 1.01 in)
Exhaust:
19.5 ~ 22.3 kgf at 25.6 mm
(42.93 ~ 49.23 lbf at 1.01 in)

3. Measure:
   - Spring tilt ⓐ
     Out of specification → Replace.

Spring tilt limit:
Intake:
2.5°/1.7 mm (0.07 in)
Exhaust:
2.5°/1.7 mm (0.07 in)



ASSEMBLY AND INSTALLATION

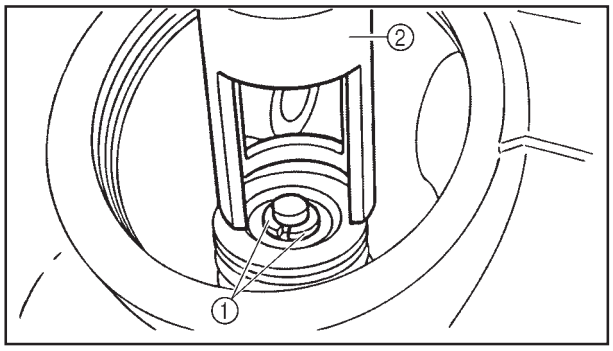
Valve

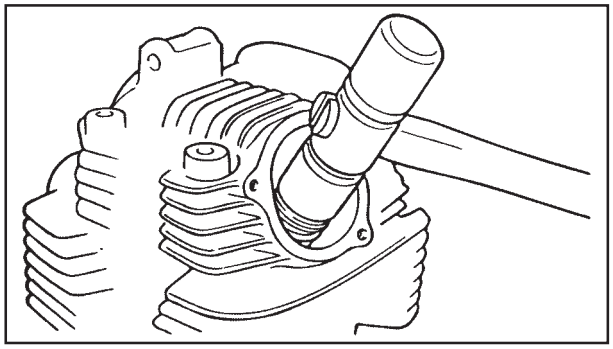
1. Apply:
   - Molybdenum disulfide oil
     (onto the valve stem and valve stem seal)

2. Install:
   - Valve spring seats ①
   - Valve stem seals ② **New**
   - Valves ③
   - Valve springs ④
   - Valve spring retainers ⑤

TIP
- Make sure that each valve is installed in its original place.
- Install the valve springs with the larger pitch ⓐ facing upwards.

ⓑ Smaller pitch





3. Install:
   - Valve cotters ①

TIP
While compressing the valve spring with a valve spring compressor ②, install the valve cotters.

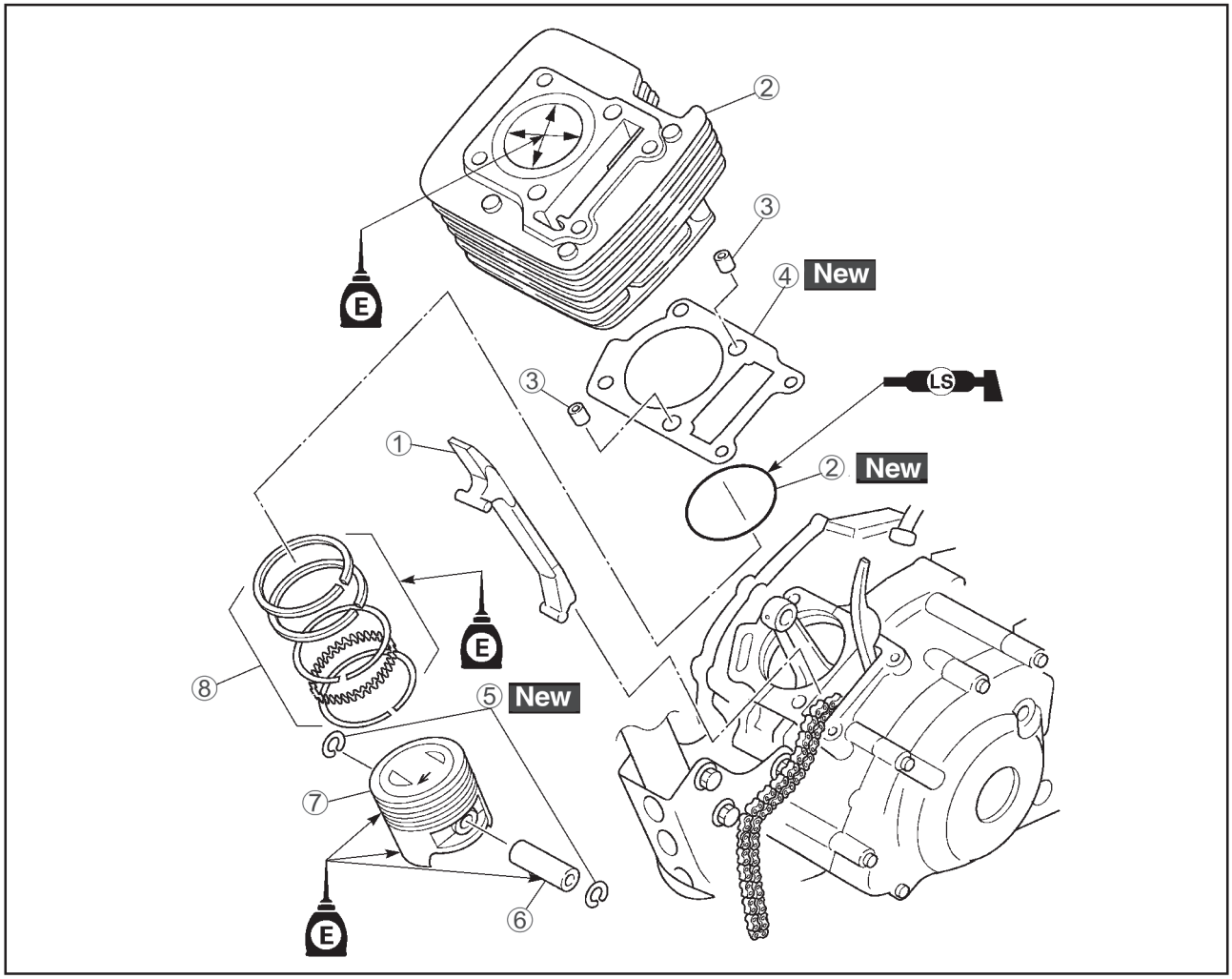
	Valve spring compressor: YM-4019/90890-04019

4. To secure the valve cotters onto the valve stem, lightly tap the valve tip with a piece of wood.

NOTICE

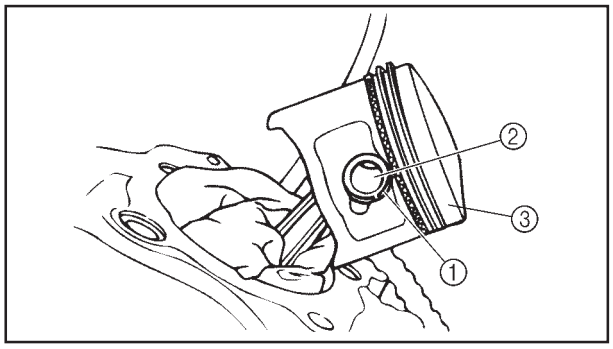
Hitting the valve tip with excessive force could damage the valve.

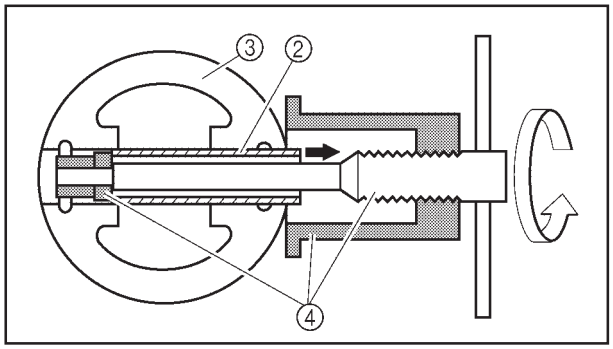
CYLINDER AND PISTON

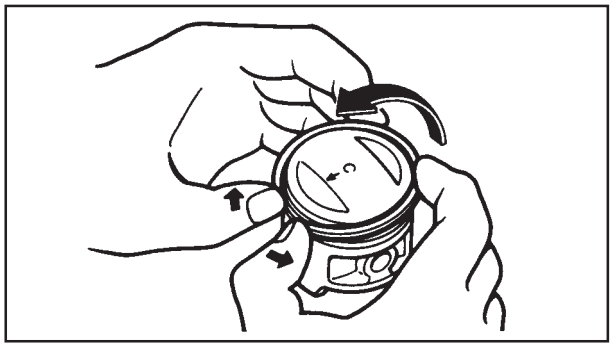


Extent of removal: ① Cylinder removal ② Piston removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**CYLINDER AND PISTON REMOVAL** Cylinder head		Refer to CYLINDER HEAD section.
① ①	1	Exhaust timing chain guide	1	
	2	Cylinder/O-ring	1/1	
	3	Dowel pin	2	
	4	Gasket	1	
	5	Piston pin clip	2	Refer to REMOVAL POINTS.
	6	Piston pin	1	
	7	Piston	1	
	8	Piston ring set	1	







REMOVAL POINTS

Piston

1. Remove:
   - Piston pin clips ①
   - Piston pin ②
   - Piston ③

TIP

- Before removing the piston pin clip, cover the crankcase opening with a clean towel or rag to prevent the clip from falling into the crankcase cavity.
- Before removing each piston pin, deburr the clip groove and pin hole area. If the piston pin groove is deburred and the piston pin is still difficult to remove, use the piston pin puller ④.

	Piston pin puller set: **YU-1304/90890-01304**

NOTICE

Do not use a hammer to drive the piston pin out.

Piston ring

1. Remove:
   - Piston rings

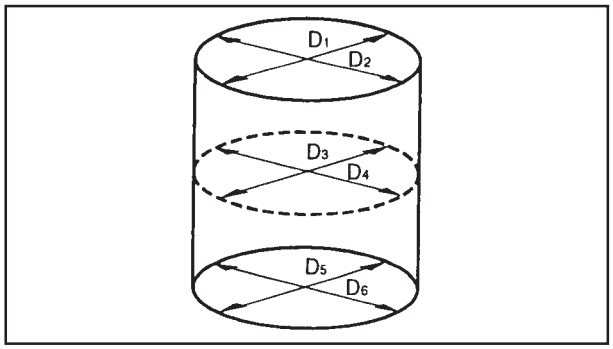
TIP

Spread the end gaps apart while at the same time lifting the piston ring over the top of the piston crown, as shown in the illustration.

INSPECTION

Cylinder and piston

1. Inspect:
   - Cylinder and piston walls
     Vertical scratches → Replace cylinder and piston.



2. Measure:
   • Piston-to-cylinder clearance

Piston-to-cylinder clearance measurement steps:

1st step:
• Measure the cylinder bore C with the cylinder bore gauge.

TIP
Measure the cylinder bore C in parallel to and at right angles to the crankshaft. Then, find the average of the measurements.

Cylinder bore "C"	**54.000 ~ 54.019 mm (2.126 ~ 2.127 in)**
Taper limit "T"	**0.05 mm (0.002 in)**
Out of round "R"	**0.05 mm (0.002 in)**

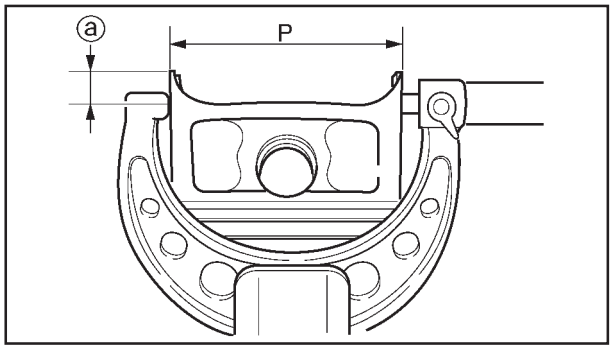
"C" = maximum of D_1 ~ D_6

"T" = maximum of D_1, or D_2 - maximum of D_5 or D_6

"R" = maximum of D_1, D_3 or D_5 - minimum of D_2, D_4 or D_6

• If out of specification, replace the cylinder, and replace the piston and piston rings as set.

2nd step:
• Measure the piston skirt diameter P with a micrometer.
ⓐ 5 mm (0.20 in) from the piston bottom edge.



	Piston size P
Standard	**53.977 ~ 53.996 mm (2.1251 ~ 2.1258 in)**

• If out of specification, replace the piston and piston rings as a set.

3rd step:
• Calculate the piston-to-cylinder clearance with following formula.

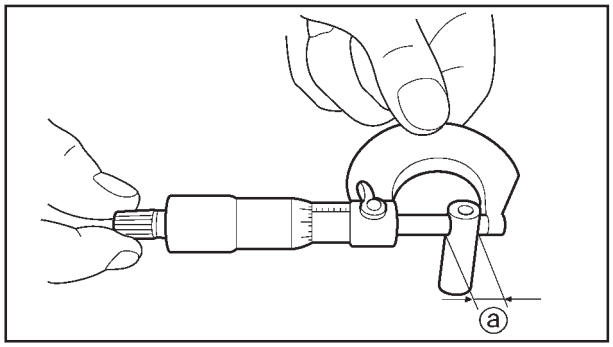
Piston-to-cylinder clearance = Cylinder bore "C" - Piston skirt diameter "P"

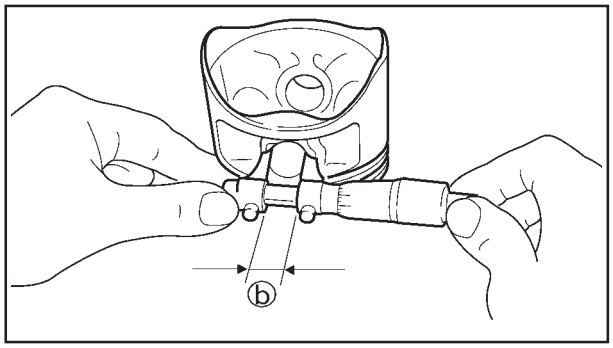
Piston-to-cylinder clearance: 0.020 ~ 0.026 mm (0.0008 ~ 0.0010 in) <Limit>: 0.15 mm (0.006 in)

• If out of specification, replace the cylinder, and replace the piston and piston rings as a set.

Piston pin

1. Inspect:
   • Piston pin
   Blue discoloration/grooves → Replace, then inspect the lubrication system.





2. Measure:
   • Piston pin-to-piston clearance

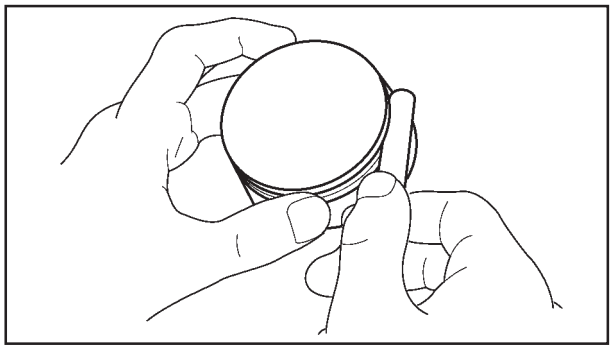
Measurement steps:

• Measure the piston pin outside diameter ⓐ.
If out of specification, replace the piston pin.

Outside diameter (piston pin):
14.991 ~ 15.000 mm
(0.5902 ~ 0.5906 in)
<Limit>: 14.971 mm (0.5894 in)

• Measure the piston inside diameter ⓑ.
If out of specification, replace the piston.

Inside diameter (piston):
15.002 ~ 15.013 mm
(0.5906 ~ 0.5911 in)
<Limit>: 15.043 mm (0.5922 in)

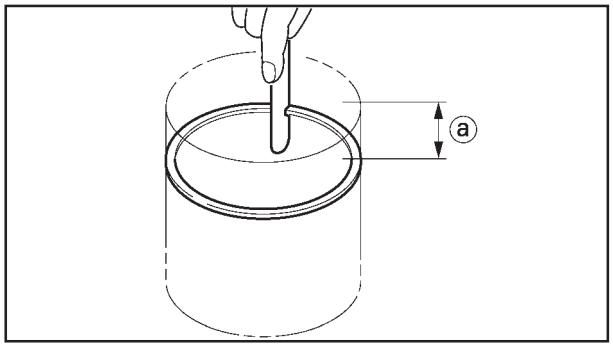


Piston ring

1. Measure:
   - Ring side clearance
     Use a feeler gauge.
     Out of specification → Replace the piston and rings as a set.

TIP
Clean carbon from the piston ring grooves and rings before measuring the side clearance.

	Side clearance:	
	Standard	<Limit>
Top Ring	0.035 ~ 0.090 mm (0.0014 ~ 0.0035 in)	0.12 mm (0.0047 in)
2nd Ring	0.020 ~ 0.060 mm (0.0008 ~ 0.0024 in)	0.12 mm (0.0047 in)



2. Position:
   - Piston ring
     (in cylinder)

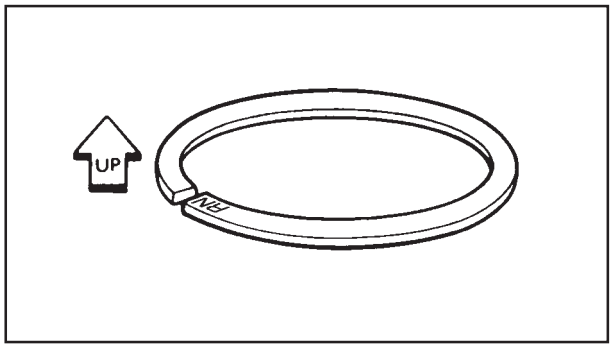
TIP
Insert a ring into the cylinder and push it approximately 40 mm (1.57 in) into the cylinder. Push the ring with the piston crown so that the ring will be at a right angle to the cylinder bore.

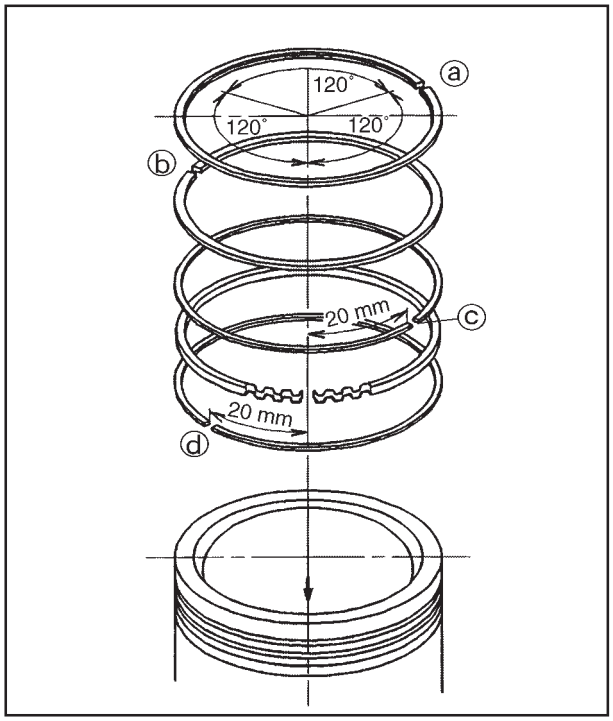
ⓐ 40 mm (1.57 in)

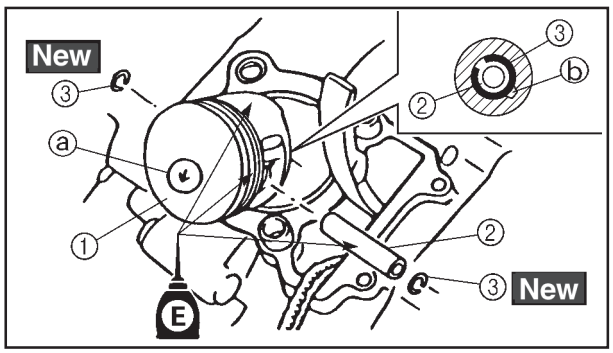
3. Measure:
   - Ring end gap
     Out of specification → Replace.

TIP
You cannot measure the end gap on the expander spacer of the oil control ring. If the oil control ring rails show excessive gap, replace all three rings.

	End gap:	
	Standard	<Limit>
Top Ring	0.15 ~ 0.30 mm (0.006 ~ 0.012 in)	0.4 mm (0.016 in)
2nd Ring	0.15 ~ 030. mm (0.012 ~ 0.018 in)	0.4 mm (0.016 in)
Oil ring	0.20 ~ 0.70 mm (0.01 ~ 0.03 in)	_







ASSEMBLY AND INSTALLATION

Piston ring and piston

1. Install:
   - Piston rings
     (onto the piston)

TIP

- Be sure to install the 2nd piston ring so that the manufacturer's mark or number are located on the upper side of the ring.
- Lubricate the piston and piston rings liberally with engine oil.

2. Position:
   - Top ring
   - 2nd ring
   - Oil ring
     Offset the piston ring end gaps as shown.

ⓐ: Top ring end
ⓑ: 2nd ring end
ⓒ: Oil ring end (upper)
ⓓ: Oil ring end (lower)

3. Install:
   - Piston ①
   - Piston pin ②
   - Piston pin clips ③ **New**

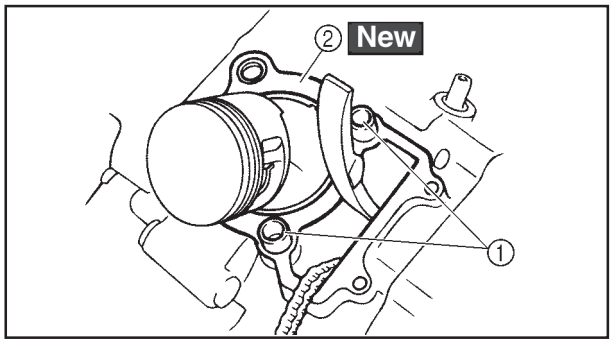
TIP

- Apply engine oil onto the piston pin, piston rings and piston.
- Be sure that the arrow mark ⓐ on the piston points to the exhaust side of the engine.
- Before installing the piston pin clip, cover the crankcase with a clean rag to prevent the piston pin clip from falling into the crankcase.
- When removing the piston pin clip, pop it out using the small opening ⓑ.

4. Lubricate:
   - Piston
   - Piston rings
   - Inside of cylinder

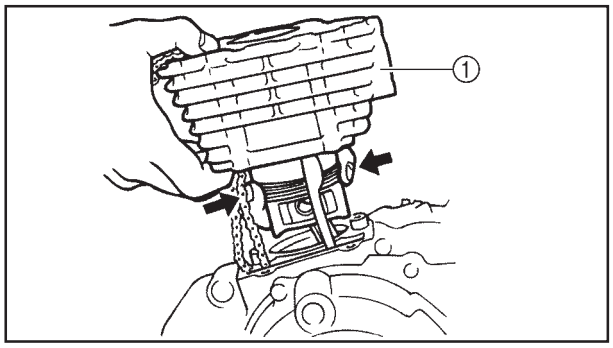
TIP

Apply a liberal coating of engine oil.



Cylinder

1. Install:
   - Dowel pins ①
   - Gasket (cylinder) ② **New**



2. Install:
   - O-ring **New**
   - Cylinder ①
   - Exhaust timing chain guide

NOTICE

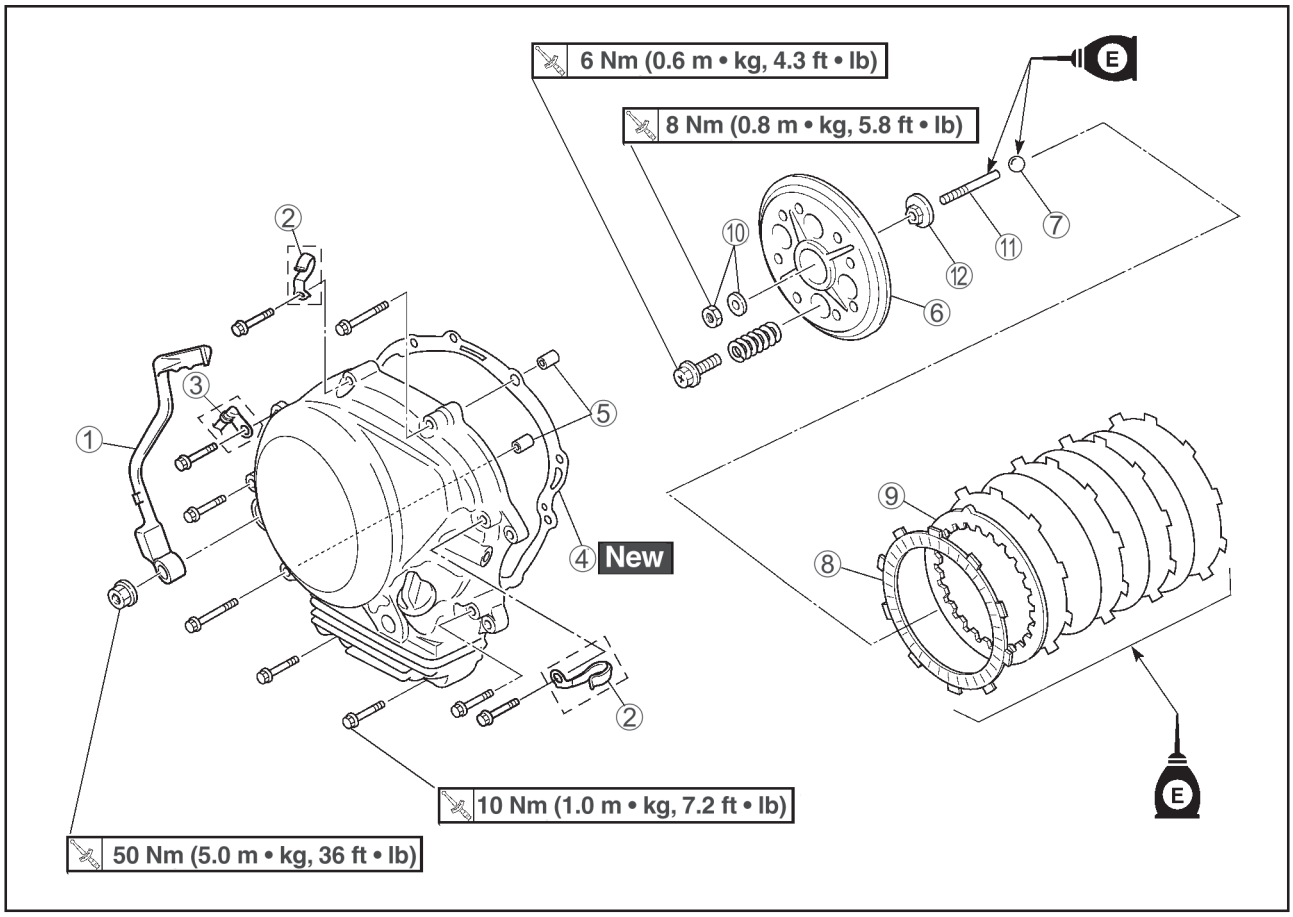
- **Install the cylinder with one hand while compressing the piston rings with the other hand.**
- **Pass the timing chain through the cylinder timing chain cavity.**
- **Be careful not to damage the timing chain guide during installation.**

TIP

After installing, check the smooth movement of the piston.

EC490000
CLUTCH AND PRIMARY DRIVEN GEAR

EC498000
CLUTCH PLATE AND FRICTION PLATE

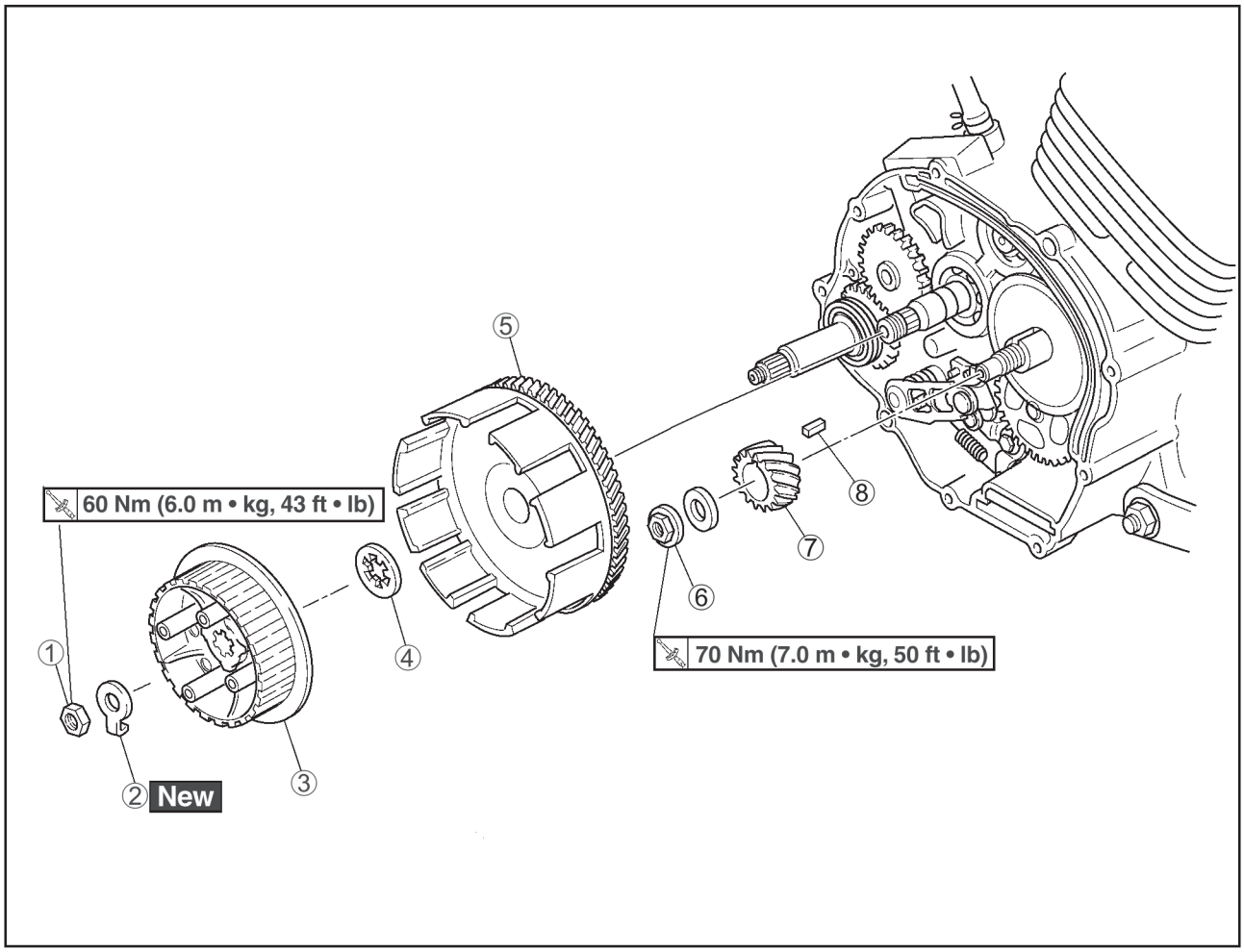


Extent of removal: ① Clutch plate and friction plate removal

Extent of removal	Order	Part name	Q'ty	Remarks
		CLUCTH PLATE AND FRICTION PLATE REMOVAL		
Preparation for removal		Drain the engine oil		Refer to ENGINE OIL REPLACEMENT section in the CHAPTER 3.
		Engine skidplate		Refer to ENGINE REMOVAL section.
		Starter motor	1	Refer to ELECTRIC STARTING SYSTEM section in the CHAPTER 6.
①	1	Kickstarter crank	1	
	2	Starter motor lead holder	2	
	3	Negative battery lead	1	
	4	Gasket	1	
	5	Dowel pin	2	
	6	Pressure plate	1	
	7	Ball	1	
	8	Friction plate	5	
	9	Clutch plate	4	
	10	Nut/washer	1/1	
	11	Push rod 1	1	
	12	Push plate	1	

EC498100

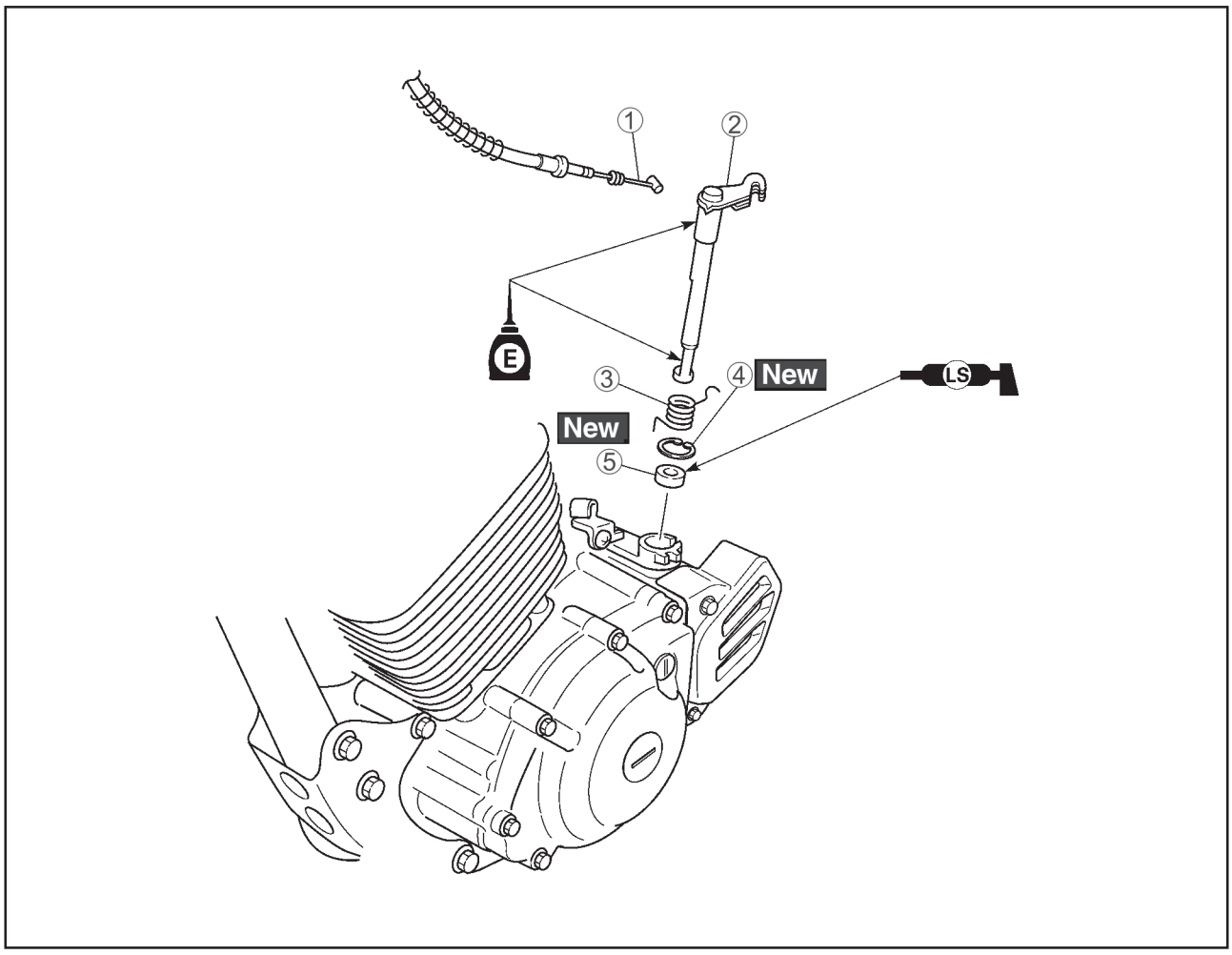
PRIMARY DRIVEN GEAR



Extent of removal: ① Primary driven gear removal ② Primary drive gear removal

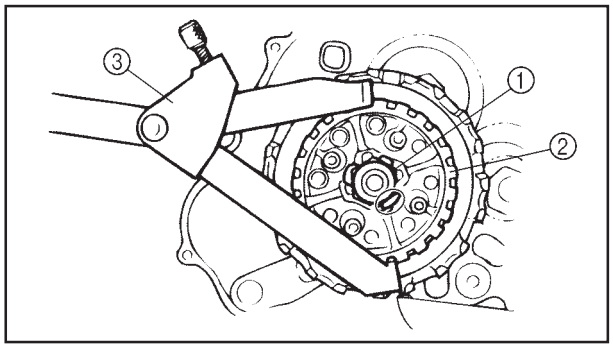
Extent of removal	Order	Part name	Q'ty	Remarks
		PRIMARY DRIVEN GEAR REMOVAL		
①	1	Nut (clutch boss)	1	Use special tool. Refer to REMOVAL POINTS.
	2	Lock washer	1	
	3	Clutch boss	1	
	4	Thrust plate	1	
	5	Primary driven gear	1	
	6	Nut (primary drive gear)	1	
②	7	Primary drive gear	1	Refer to REMOVAL POINTS.
	8	Straight key	1	

PUSH LEVER



Extent of removal: ① Push lever removal

Extent of removal	Order	Part name	Q'ty	Remarks
		PUSH LEVER REMOVAL		
①	1	Clutch cable	1	
	2	Push lever	1	
	3	Spring	1	
	4	Circlip	1	
	5	Oil seal	1	



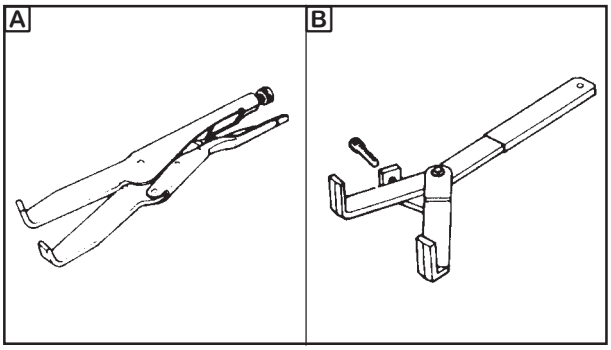
EC493000
REMOVAL POINTS

Clutch boss

1. Remove:
   - Nut ①
   - Lock washer
   - Clutch boss ②

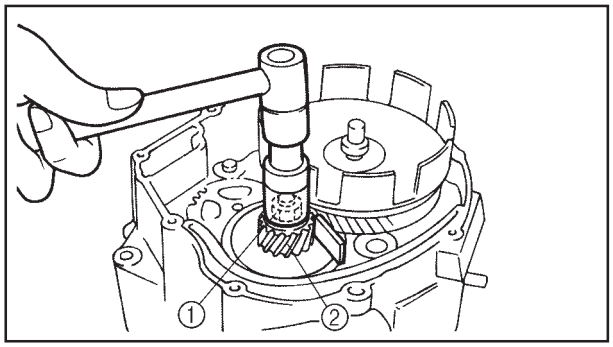
TIP

Straighten the lock washer tab and use the clutch holding tool ③ to hold the clutch boss.



	Clutch holding tool: YM-91042/90890-04086

A For USA and CDN
B Except for USA and CDN

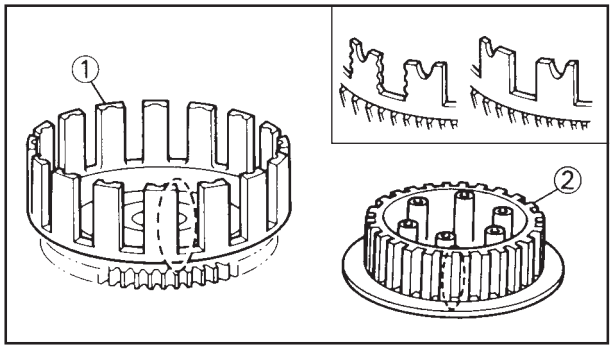


Primary drive gear

1. Remove:
   - Nut (primary drive gear) ①
   - Primary drive gear ②

TIP

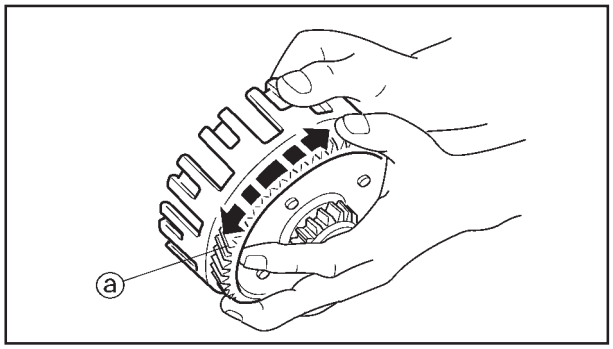
- Place a folded rag or aluminum plate between the teeth of the primary drive gear and primary driven gear.
- Take care not to damage the gear teeth.



EC494000
INSPECTION

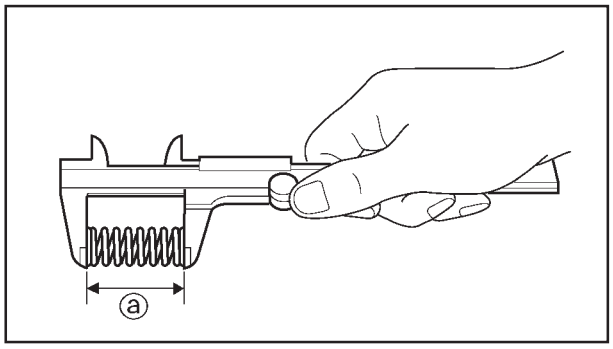
EC484100
Clutch housing and boss

1. Inspect:
   - Clutch housing ①
     Cracks/wear/damage → Replace.
   - Clutch boss ②
     Scoring/wear/damage → Replace.



EC484201
Primary driven gear

1. Check:
   - Circumferential play
     Free play exists → Replace.
   - Gear teeth ⓐ
     Wear/damage → Replace.

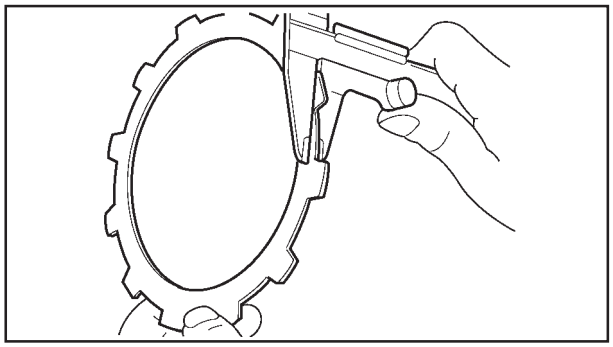


EC484400

Clutch spring

1. Measure:
   - Clutch spring free length ⓐ
     Out of specification → Replace springs as a set.

Clutch spring free length:
33 mm (1.30 in)
<Limit>: 31 mm (1.22 in)

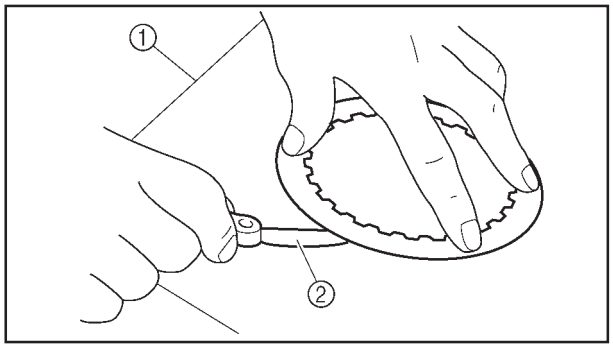


EC484500

Friction plate

1. Measure:
   - Friction plate thickness
     Out of specification → Replace friction plate as a set.
     Measure at all four points.

Friction plate thickness:
2.92 ~ 3.08 mm
(0.115 ~ 0.121 in)
<Limit>: 2.8 mm (0.110 in)

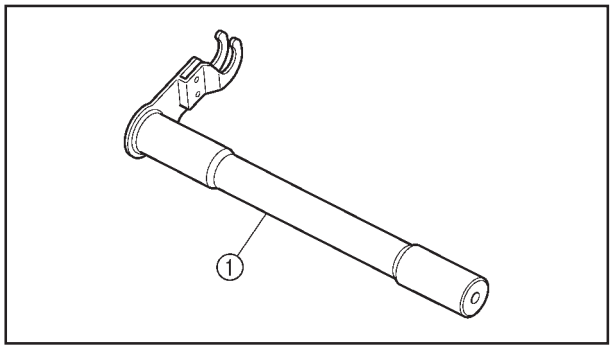


EC484600

Clutch plate

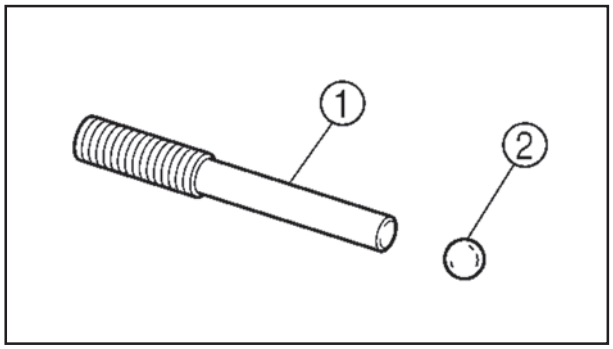
1. Measure:
   - Clutch plate warpage
     Out of specification → Replace clutch plate as a set.
     Use a surface plate ① and thickness gauge ②.

Warp limit:
0.2 mm (0.008 in)



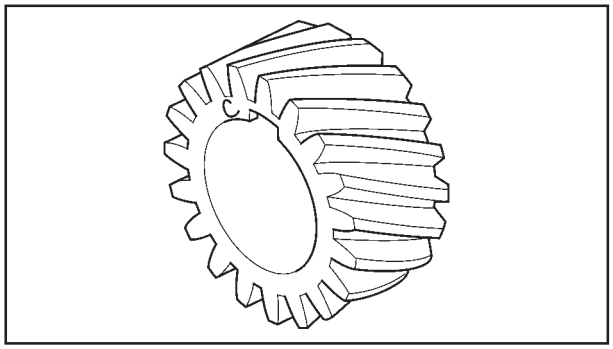
Push lever

1. Inspect:
   - Push lever ①
     Wear/damage → Replace.



Push rod

1. Inspect:
   - Push rod 1 ①
   - Ball ②
     Wear/damage/bend → Replace.

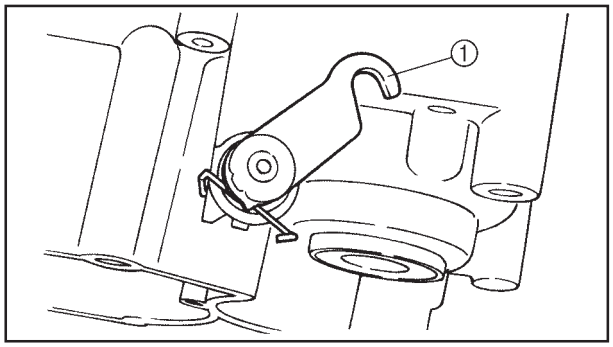


Primary drive gear

1. Inspect:
   - Primary drive gear
     Wear/damage → Replace.

EC495000

ASSEMBLY AND INSTALLATION

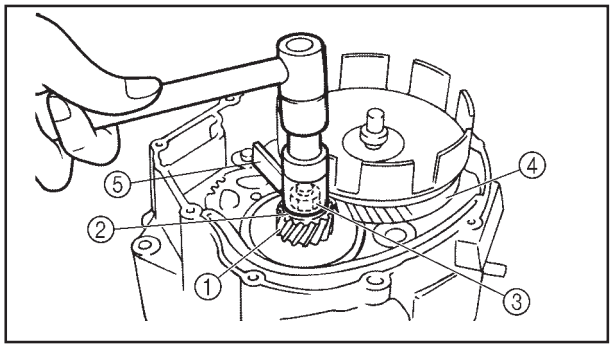


Push lever

1. Install:
   - Push lever ①

TIP

- Apply the lithium soap base grease on the oil seal lip.
- Apply the engine oil on the push lever.

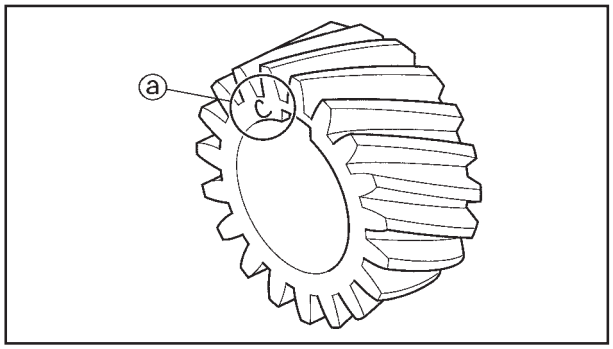


Primary drive gear

1. Install:
   - Straight key
   - Primary drive gear ①
   - Washer ②
   - Nut (primary drive gear) ③

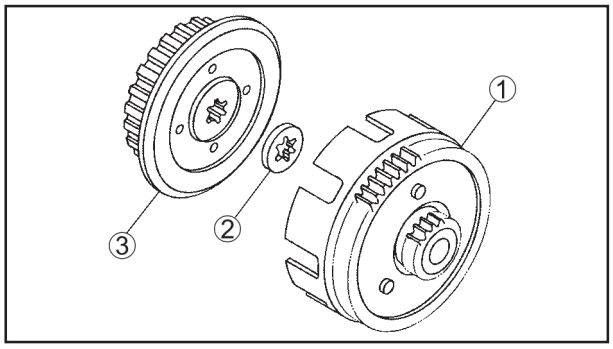
	70 Nm (7.0 m • kg, 50 ft • lb)

   - Primary driven gear ④



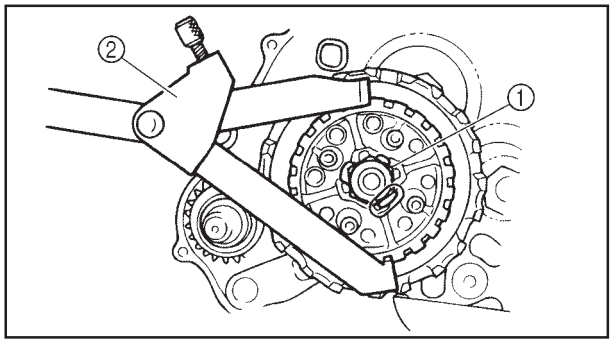
TIP

- Install the primary drive gear with the stamp ⓐ facing out.
- Place a folded rag or aluminum plate ⑤ between the teeth of the primary drive gear and primary driven gear.



Clutch

1. Install:
   - Primary driven gear ①
   - Thrust plate ②
   - Clutch boss ③



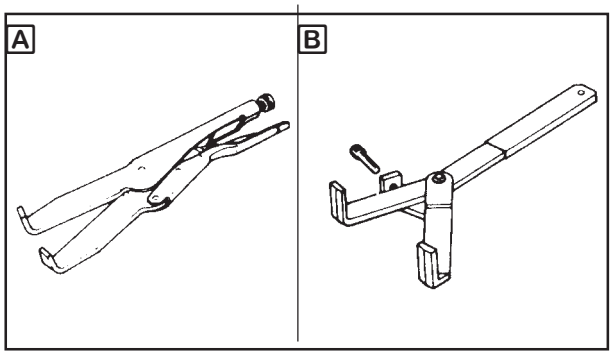
2. Install:
   - Lock washer **New**
   - Nut (clutch boss) ①

	60 Nm (6.0 m • kg, 43 ft • lb)

TIP

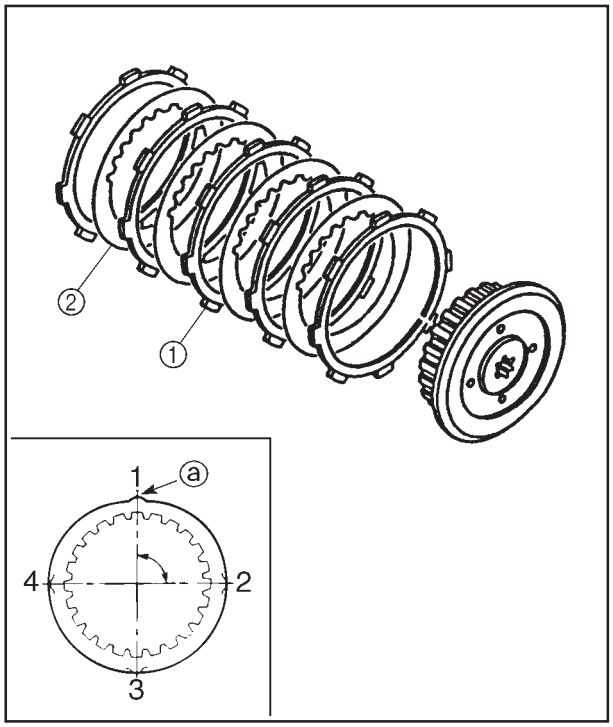
Use the clutch holding tool ② to hold the clutch boss.

	Clutch holding tool: **YM-91042/90890-04086**



A For USA and CDN
B Except for USA and CDN

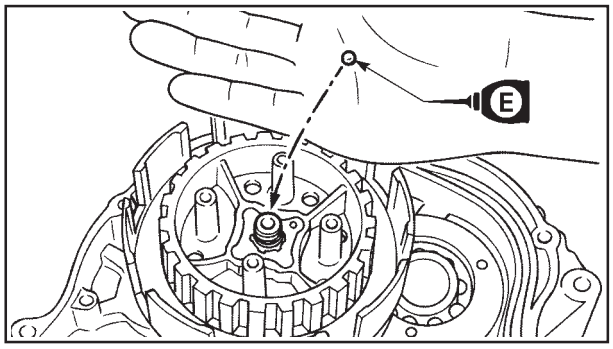
3. Bend:
   - Lock washer tab



4. Install:
   - Friction plate ①
   - Clutch plate ②

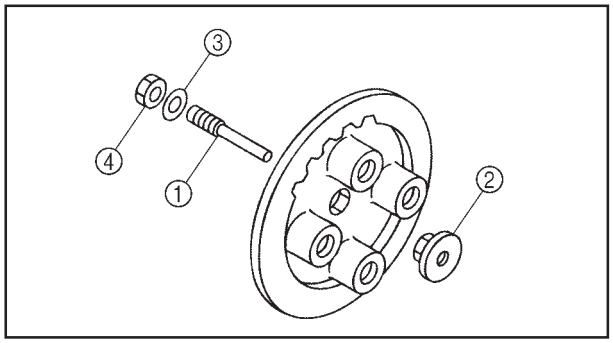
TIP

- Install the clutch plates and friction plates alternately on the clutch boss, starting with a friction plate and ending with a friction plate.
- Apply the engine oil on the friction plates and clutch plates.
- Be sure to install a clutch plate with projection ⓐ offset approximately 90° from previous plates projection. Continue this procedure in a clockwise direction until all clutch plates are installed.

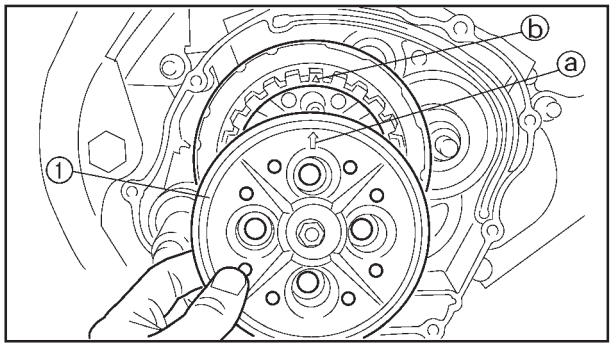


5. Install:
   - Ball

TIP
Apply the engine oil on the ball.



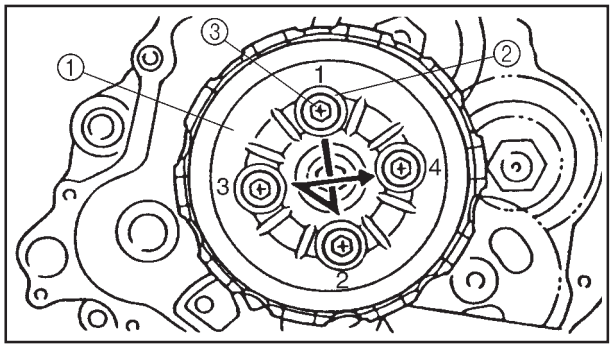
6. Install:
   - Push rod 1 ①
   - Push plate ②
   - Washer ③
   - Nut (push rod 1) ④

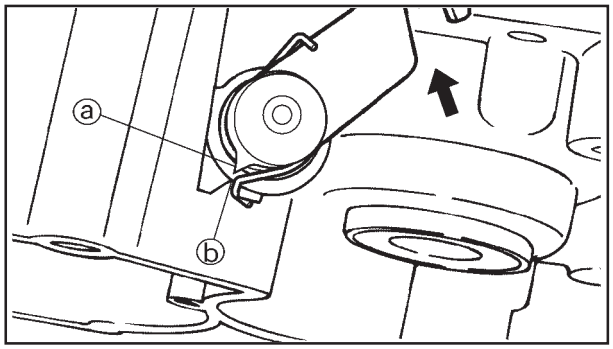


7. Install:
   - Pressure plate ①
   - Clutch spring ②
   - Bolt (clutch spring) ③

	6 Nm (0.6 m • kg, 4.3 ft • lb)

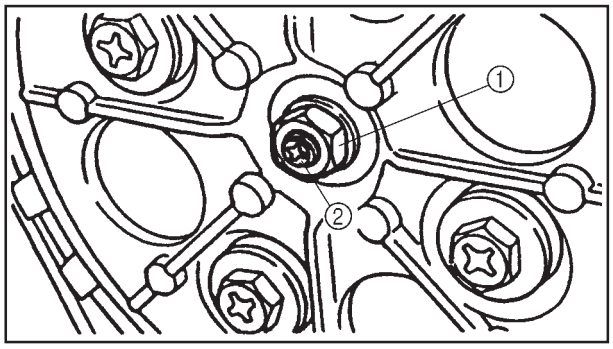
TIP
- Align the arrow mark ⓐ on the pressure plate with the punched mark ⓑ on the clutch boss.
- Tighten the bolts in stage, using a crisscross pattern.

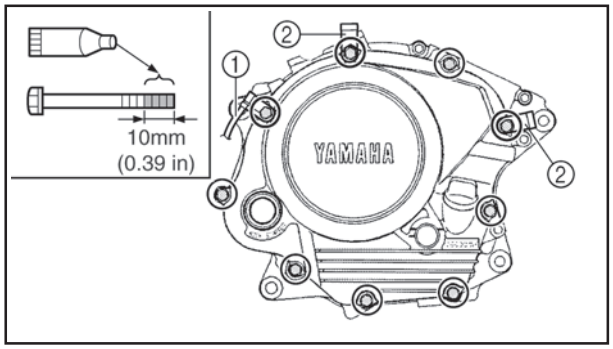




8. Check:
   - Push lever position
     Push the push lever assembly in the arrow direction and make sure that the mach mark are aligned → adjust.

ⓐ Match mark on the push lever assembly
ⓑ Match mark on the crankcase





9. Adjust:
   - Push lever position

Adjustment steps:

- Loosen the locknut ①.
- Turn the push rod 1 ② clockwise or counterclockwise to match alignment marks.
- Hold the push rod 1 to prevent it from moving and tighten the locknut to specification.
- Tighten the locknut ①.

Locknut:
8 Nm (0.8 m • kg, 5.8 ft • lb)

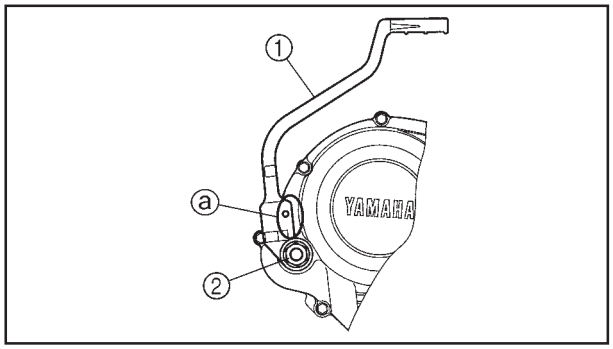
10. Install:
    - Dowel pins
    - Gasket (right crankcase cover) **New**
    - Right crankcase cover
    - Negative battery lead ①
    - Lead holder ②
    - Bolts (right crankcase cover)

10 Nm (1.0 m • kg, 7.2 ft • lb)

TIP

- Apply Quick gasket® (YAMAHA Bond No.1215) to end of the right crankcase cover bolts, as shown.
- Tighten the bolts in stages, using a crisscross pattern.

Quick gasket®:
ACC-QUICK-GS-KT
YAMAHA Bond No.1215:
90890-85505



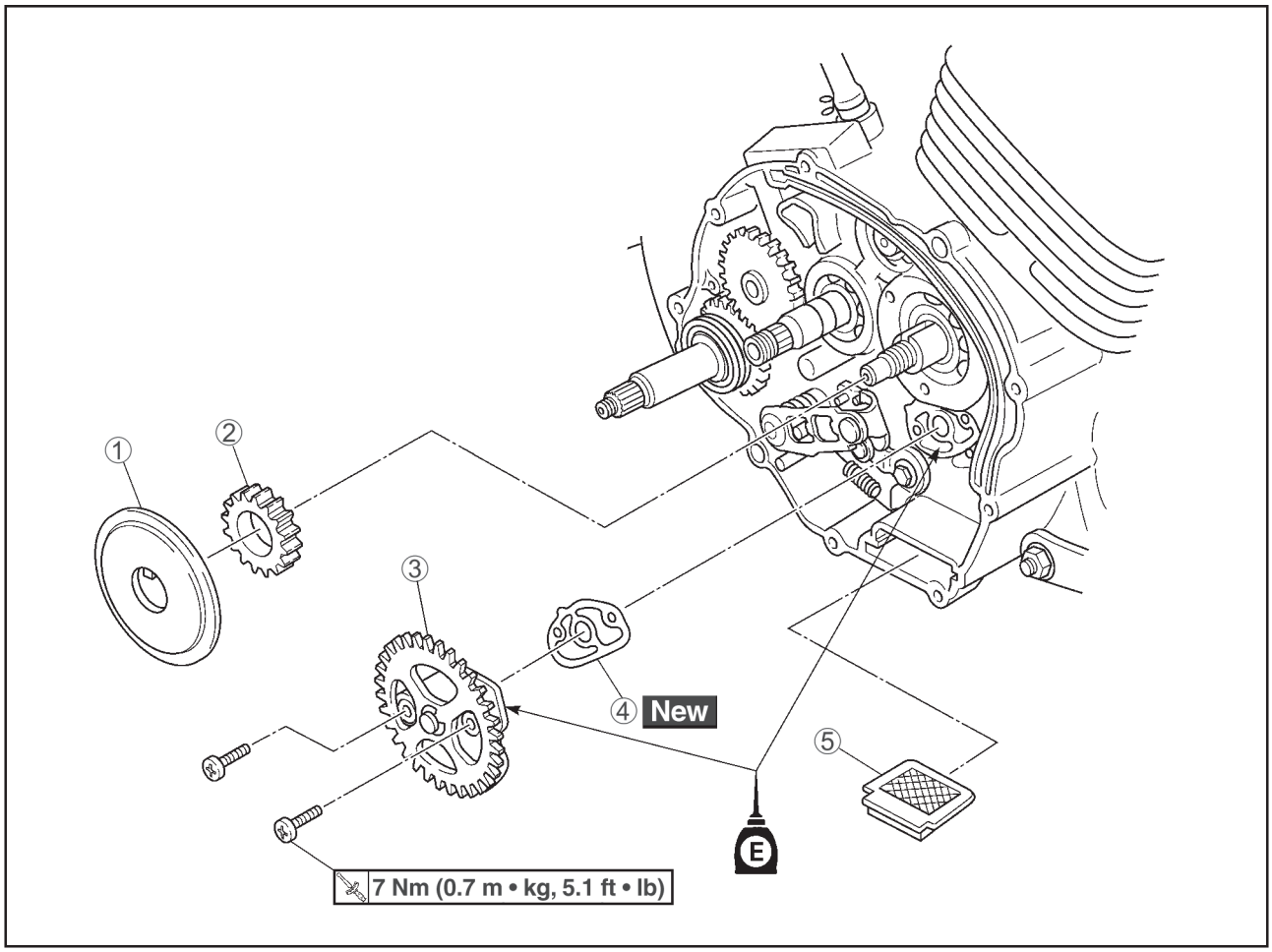
11. Install:
    - Kickstarter crank ①
    - Nut (kickstarter crank) ②

50 Nm (5.0 m • kg, 36 ft • lb)

TIP

Install the kickstarter crank so that there is 5 ~ 10 mm (0.2 ~ 0.4 in) ⓐ between the kickstarter crank and the right crankcase cover.

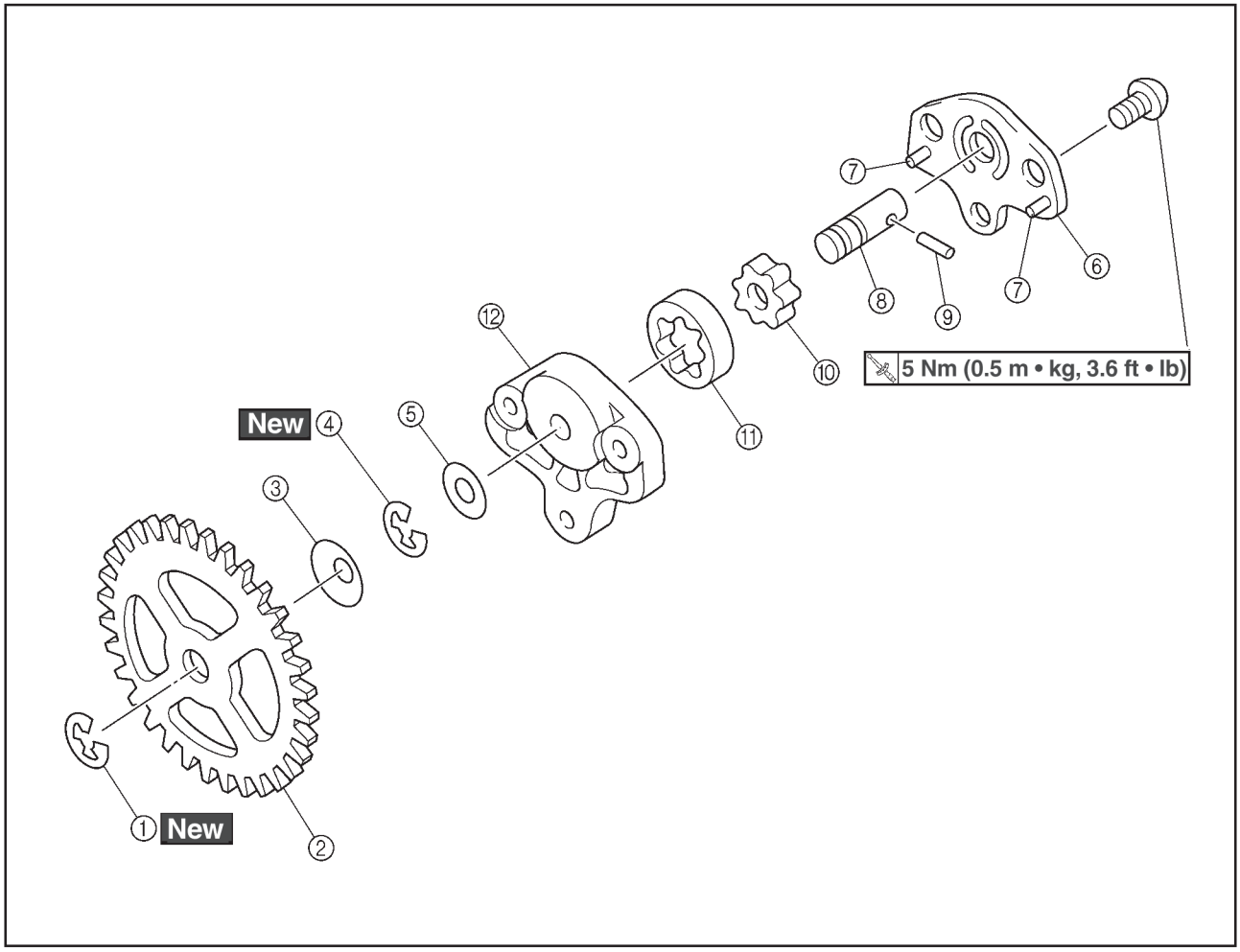
OIL PUMP



Extent of removal: ① Oil pump removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**OIL PUMP REMOVAL** Clutch and primary drive gear		Refer to CLUTCH AND PRIMARY DRIVEN GEAR section.
①	1 2 3 4 5	Rotary filter Oil pump drive gear Oil pump assembly Gasket Oil strainer	1 1 1 1 1	

OIL PUMP DISASSEMBLY



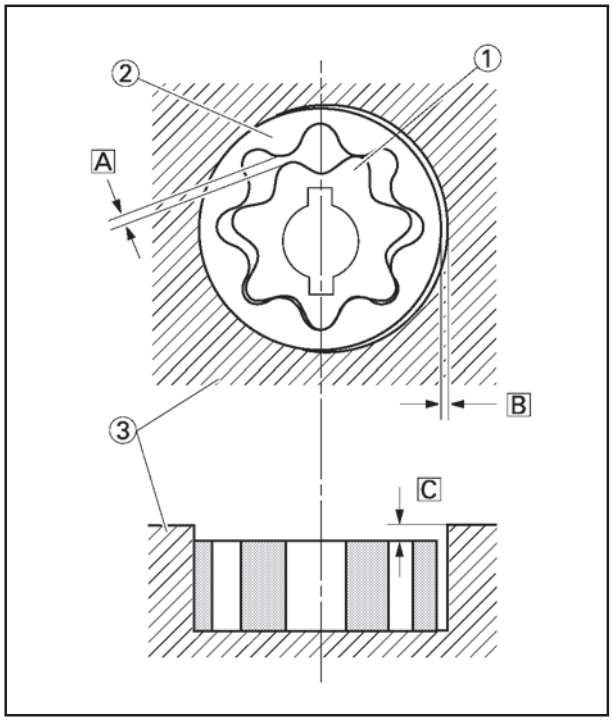
Extent of removal: ① Oil pump disassembly

Extent of removal	Order	Part name	Q'ty	Remarks
		OIL PUMP DISASSEMBLY		
①	1	Circlip	1	
	2	Oil pump driven gear	1	
	3	Conical spring washer	1	
	4	Circlip	1	
	5	Washer	1	
	6	Oil pump cover	1	
	7	Pin	2	
	8	Oil pump shaft	1	
	9	Pin	1	
	10	Inner rotor	1	
	11	Outer rotor	1	
	12	Oil pump housing	1	

INSPECTION

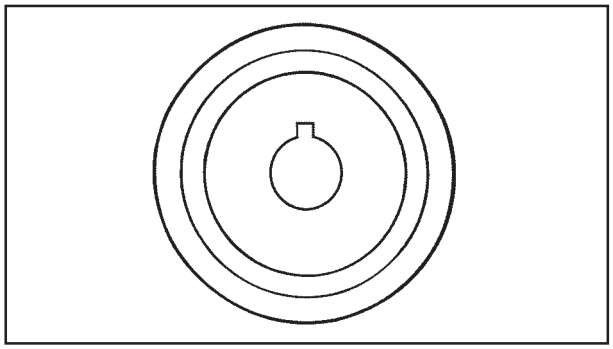
Oil pump

1. Inspect:
   - Oil pump drive gear
   - Oil pump driven gear
   - Oil pump housing
   - Oil pump cover
   Cracks/wear/damage → Replace.



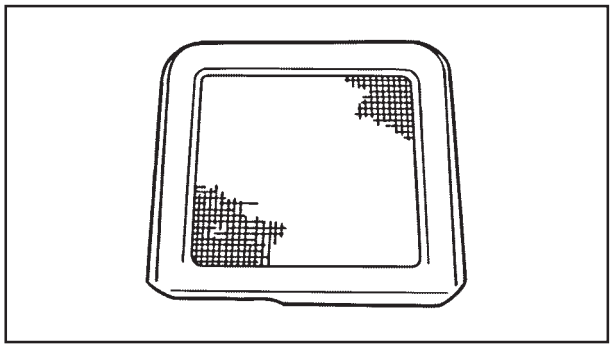
2. Measure:
   - Tip clearance [A]
   (between the inner rotor ① and the outer rotor ②)
   - Side clearance [B]
   (between the outer rotor ② and the oil pump housing ③)
   Out of specification → Replace the oil pump assembly.
   - Housing and rotor clearance [C]
   (between the pump housing ③ and the rotors ① ②)
   Out of specification → Replace the oil pump assembly.

Tip clearance [A]:
0.15 mm (0.0059 in)
<Limit>: 0.20 mm (0.0079 in)
Side clearance [B]:
0.06 ~ 0.10 mm
(0.0024 ~ 0.0039 in)
<Limit>: 0.15 mm (0.0059 in)
Housing and rotor clearance [C]:
0.06 ~ 0.10 mm
(0.0024 ~ 0.0039 in)
<Limit>: 0.15 mm (0.0059 in)



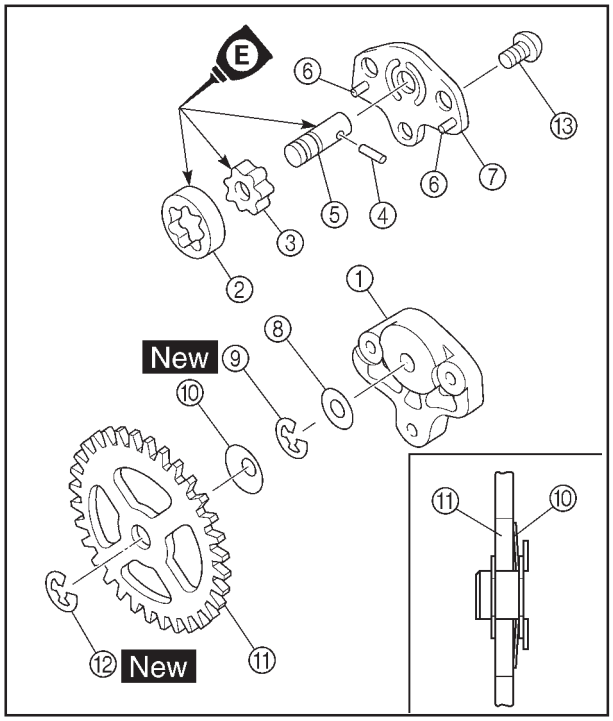
Rotary filter

1. Inspect:
   - Rotary filter
   Cracks/damage → Replace.



Oil strainer

1. Inspect:
   - Oil strainer
     Cracks/damage → Replace.
     Contamination → Clean the flushing oil.



ASSEMBLY AND INSTALLATION

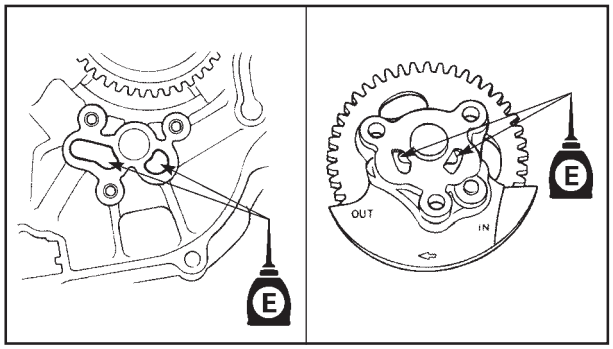
Oil pump

1. Install:
   - Oil pump housing ①
   - Outer rotor ②
   - Inner rotor ③
   - Pin ④
   - Oil pump shaft ⑤
   - Pin ⑥
   - Oil pump cover ⑦
   - Washer ⑧
   - Circlip ⑨ **New**
   - Conical spring washer ⑩
   - Oil pump driven gear ⑪
   - Circlip ⑫ **New**
   - Screws ⑬

5 Nm (0.5 m • kg, 3.6 ft • lb)

TIP

- Apply engine oil onto the outer rotor, inner rotor and oil pump shaft.
- Install the conical spring washer in the direction as shown.

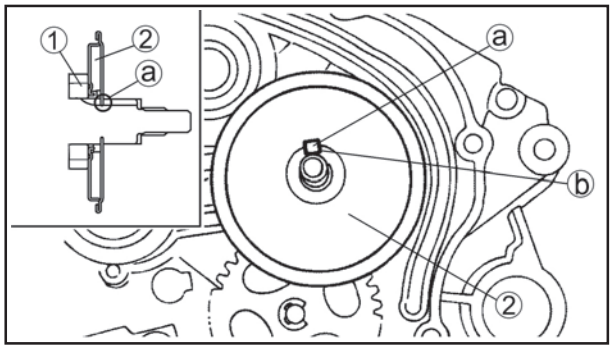


2. Install:
   - Oil strainer
   - Gasket **New**
   - Oil pump assembly
   - Screws (oil pump assembly)

7 Nm (0.7 m • kg, 5.1 ft • lb)

TIP

Apply engine oil onto the crankcase oil passage and oil pump assembly.



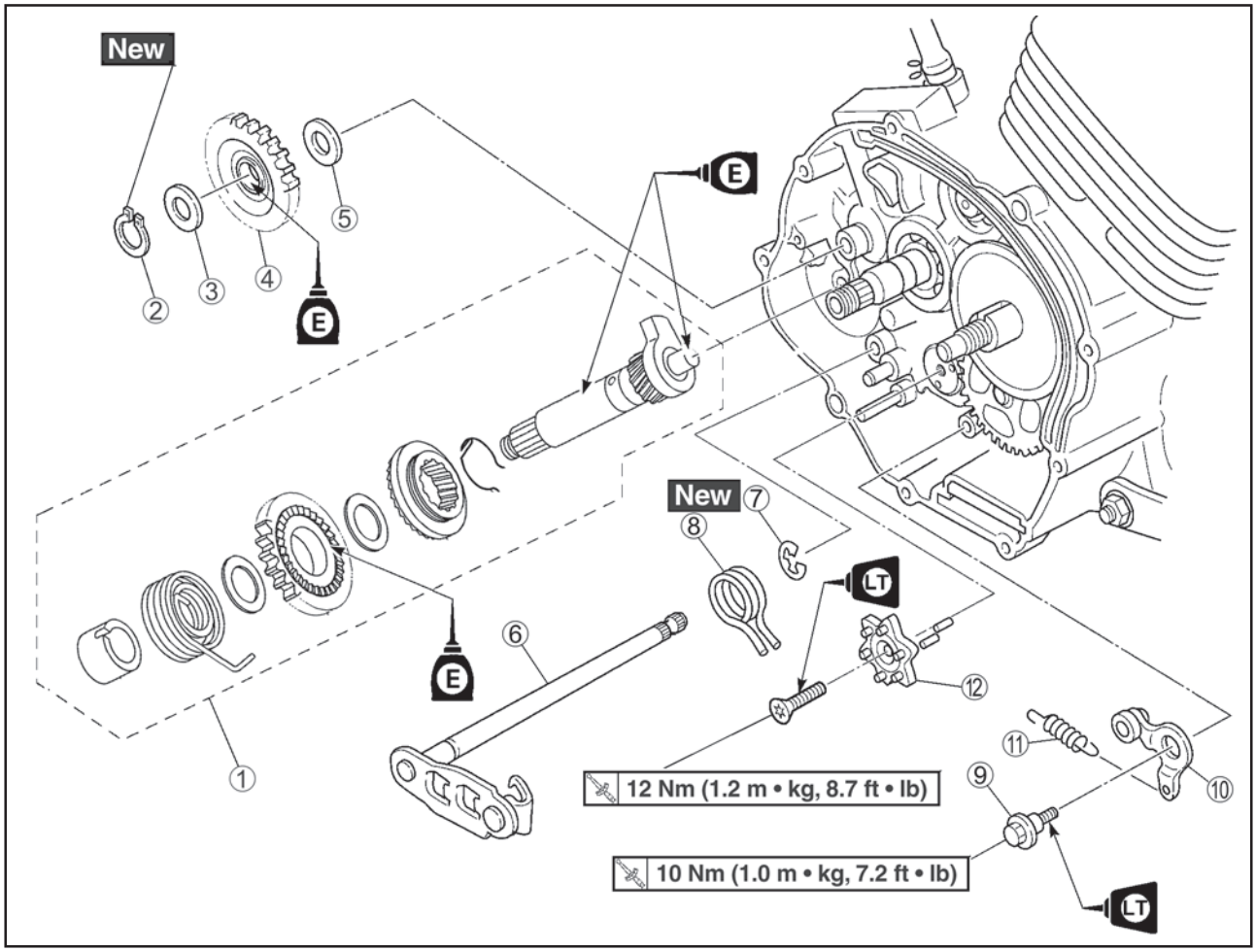
3. Install:
   - Oil pump drive gear ①
   - Rotary filter ②

TIP

- Install the rotary filter with the dog ⓐ facing out.
- Align the rotary filter dog ⓐ with groove ⓑ of the crankshaft.

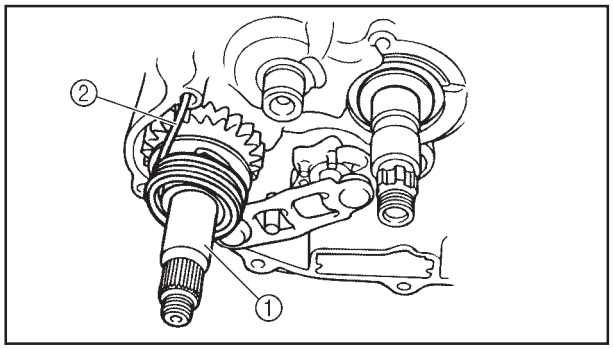
KICK AXLE AND SHIFT SHAFT

KICK AXLE AND SHIFT SHAFT



Extent of removal: ① Kick axle removal ② Shift shaft removal

Extent of removal	Order	Part name	Q'ty	Remarks
		KICK AXLE AND SHIFT SHAFT REMOVAL		
Preparation for removal		Shift pedal link		Refer to ENGINE REMOVAL section.
		Clutch		Refer to CLUTCH AND PRIMARY DRIVEN GEAR section.
①	1	Kick axle assembly	1	Refer to REMOVAL POINTS
	2	Circlip	1	
	3	Washer	1	
	4	Kick idle gear	1	
	5	Washer	1	
②	6	Shift shaft	1	
	7	Circlip	1	
	8	Torsion spring	1	
	9	Bolt (stopper lever)	1	
	10	Stopper lever	1	
	11	Spring	1	
	12	Segment	1	Refer to REMOVAL POINTS



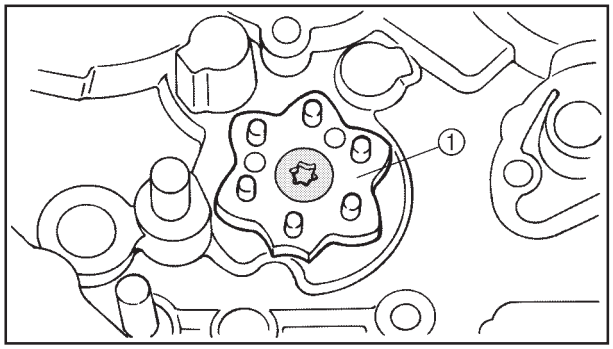
REMOVAL POINTS

Kick axle

1. Remove:
   - Kick axle assembly ①

TIP

Unhook the torsion spring ② from the hole in the crankcase.

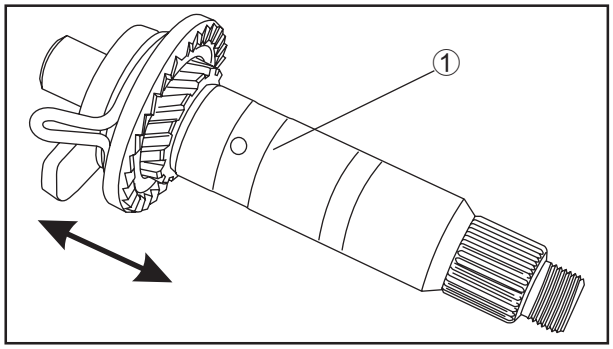


Segment

1. Remove:
   - Screw (segment)
   - Segment ①

TIP

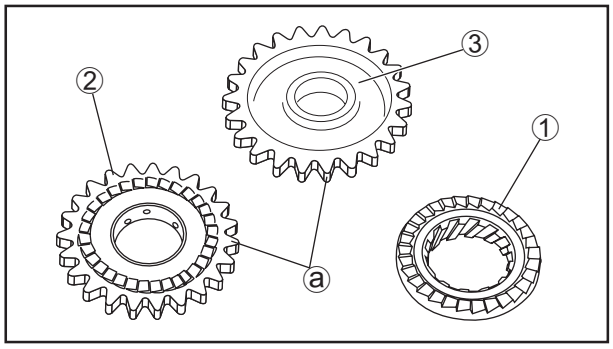
Loosen the screw using the T30 bit.



INSPECTION

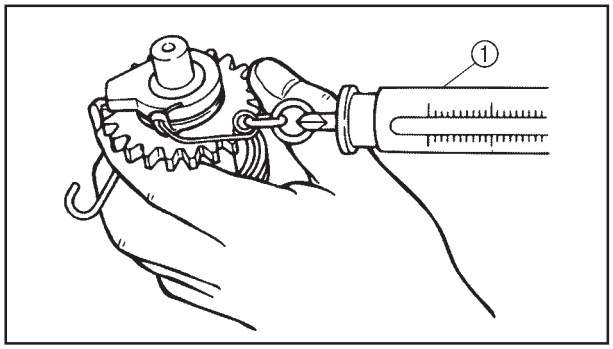
Kick axle and ratchet wheel

1. Check:
   - Ratchet wheel smooth movement
     Unsmooth movement → Replace.
2. Inspect:
   - Kick axle ①
     Wear/damage → Replace.



Kickstarter segment gear and kick idle gear

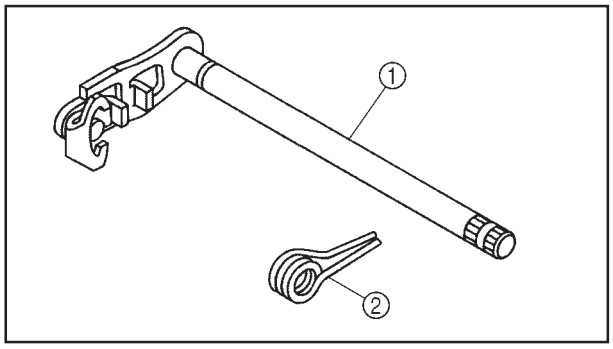
1. Inspect:
   - Ratchet idle gear ①
   - Kickstarter segment gear ②
   - Kick idle gear ③
   - Gear teeth ⓐ
     Wear/damage → Replace.



Kick axle clip

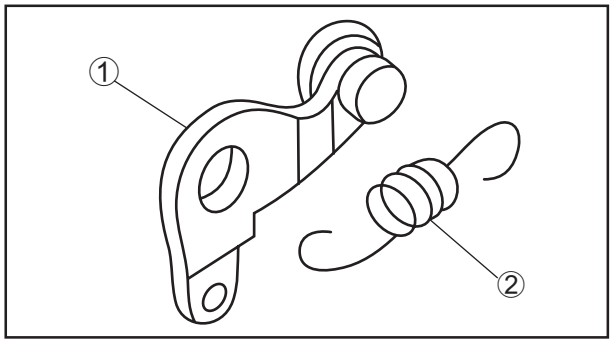
1. Measure:
   - Kick axle clip friction force (torsion spring)
     Out of specification → Replace.
     Use a spring gauge ①.

	Kick axle clip friction force: **0.65 ~ 1.35 kg (1.4 ~ 3.0 lb)**



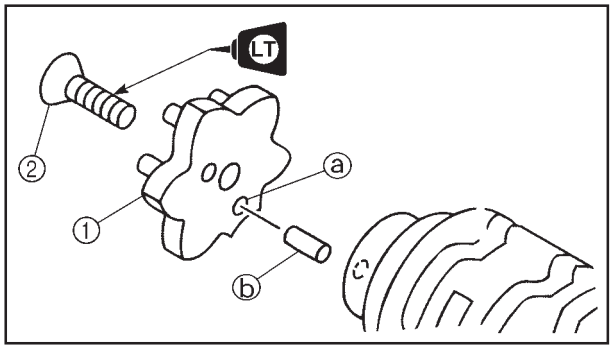
EC4B4400
Shift shaft

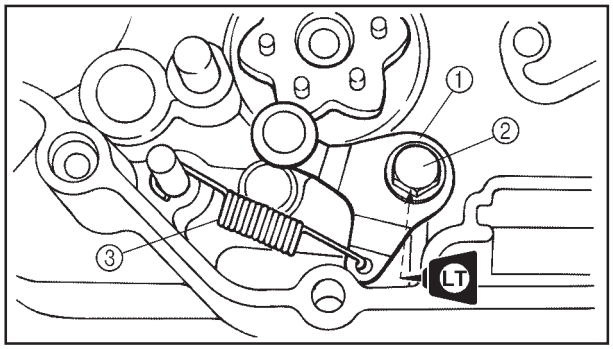
1. Inspect:
   - Shift shaft ①
     Bend/damage → Replace.
   - Spring ②
     Broken → Replace.



EC4B4500
Stopper lever

1. Inspect:
   - Stopper lever ①
     Wear/damage → Replace.
   - Torsion spring ②
     Broken → Replace.





EC4C5000
ASSEMBLY AND INSTALLATION

Segment

1. Install:
   - Segment ①
   - Screw (segment) ②

12 Nm (1.2 m • kg, 8.7 ft • lb)

TIP

- Align the notch ⓐ on the segment with the pin ⓑ on the shift cam.
- Tighten the screw using the T30 bit.

Stopper lever

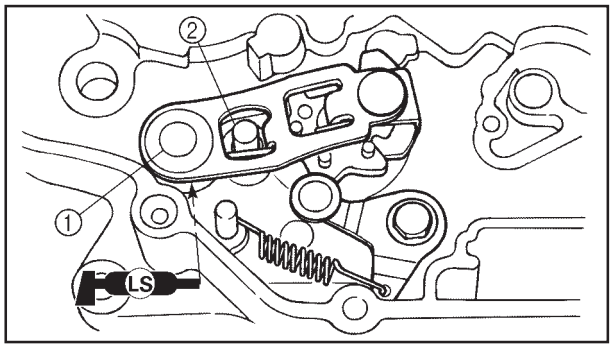
1 Install:
   - Stopper lever ①
   - Bolt (stopper lever) ②

10 Nm (1.0 m · kg, 7.2 ft · lb)

   - Torsion spring ③

TIP

Align the stopper lever roller with the slot on segment.

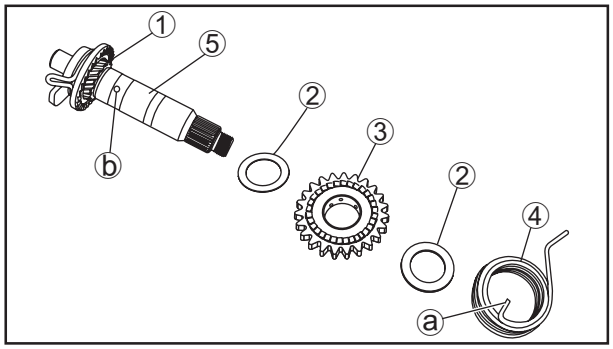


Shift shaft

1. Install:
   - Shift shaft ①

TIP

- Apply the lithium soap base grease on the oil seal lip of the left crankcase side.
- Hook the spring ends onto the stopper ②.

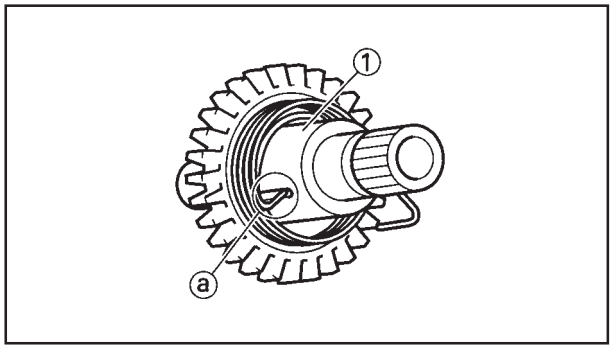


Kick axle assembly

1. Install:
   - Ratchet idle gear ①
   - Kickstarter segment gear ③
   - Plain washer ②
   - Torsion spring ④
     On kick axle ⑤.

TIP

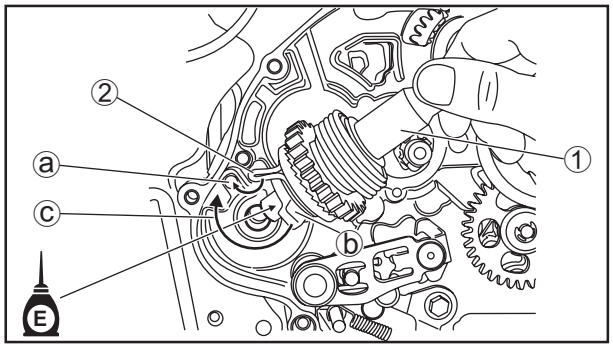
Make sure the stopper ⓐ of the torsion spring fits into the hole ⓑ on the kick axle.



2. Install:
   - Spring guide ①

TIP

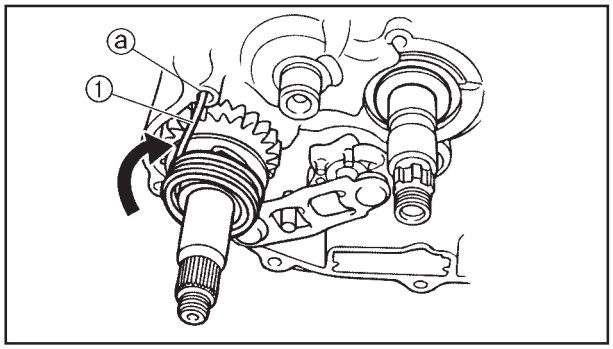
Slide the spring guide into the kick axle, make sure the groove ⓐ in the spring guide fits on the stopper of the torsion spring.



3. Install:
   - Kick axle assembly ①

TIP

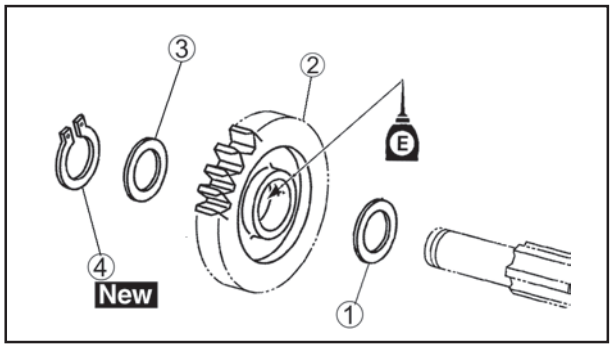
- Apply the engine oil on the kick axle.
- Slide the kick axle assembly into the crankcase, make sure the clip ② and kick axle stopper ⓑ fit into their home positions ⓐ, ⓒ.



4. Hook:
   - Torsion spring ①

TIP

Turn the torsion spring clockwise and hook into the proper hole ⓐ in the crankcase.



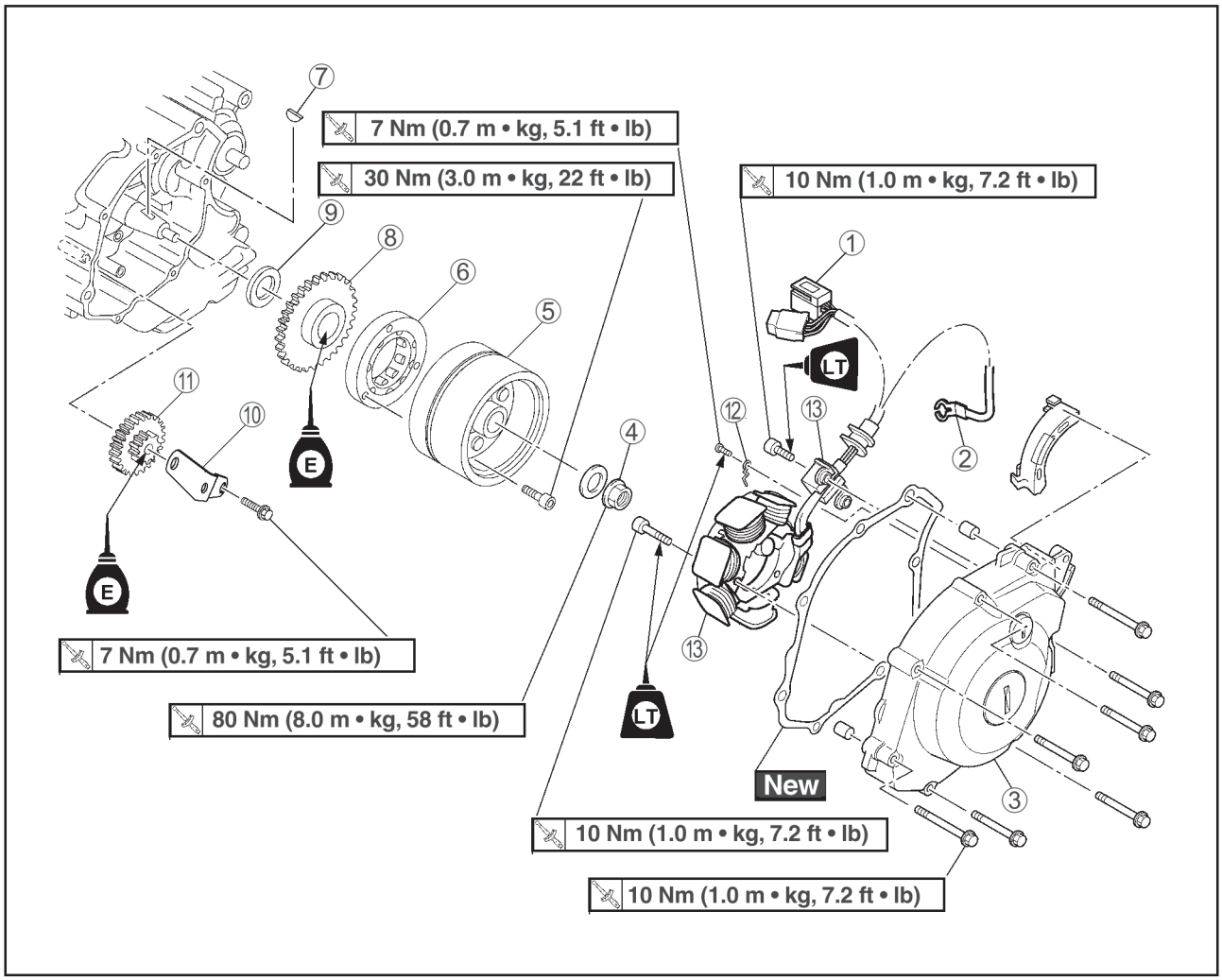
Kick idle gear

1. Install:
   - Washer ①
   - Kick idle gear ②
   - Washer ③
   - Circlip ④ **New**

TIP

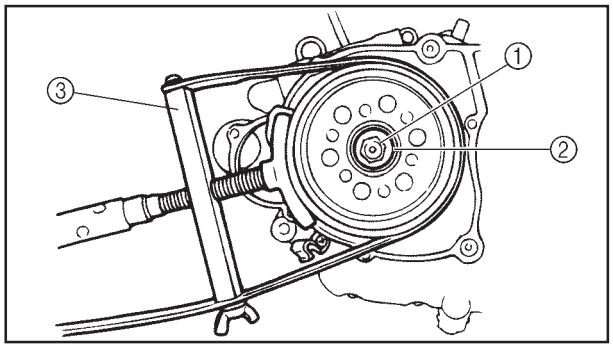
- Apply the engine oil on the kick idle gear inner circumference.
- Install the kick idle gear with its depressed side toward you.

CDI MAGNETO AND STARTER CLUTCH


7 Nm (0.7 m • kg, 5.1 ft • lb)
30 Nm (3.0 m • kg, 22 ft • lb)
10 Nm (1.0 m • kg, 7.2 ft • lb)
7 Nm (0.7 m • kg, 5.1 ft • lb)
80 Nm (8.0 m • kg, 58 ft • lb)
10 Nm (1.0 m • kg, 7.2 ft • lb)
10 Nm (1.0 m • kg, 7.2 ft • lb)
New
E
LT

Extent of removal: ① Pickup coil/stator removal ② Starter clutch/wheel gear removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**CDI MAGNETO AND STATOR REMOVAL** Fuel tank		
①	1	CDI magneto lead	1	
①	2	Neutral switch lead	1	
①	3	Left crankcase cover	1	
②	4	Nut (rotor)	1	Use special tool.
②	5	Rotor	1	Refer to REMOVAL POINTS .
②	6	Starter clutch	1	
②	7	Woodruff key	1	
②	8	Starter wheel gear	1	
②	9	Plain washer	1	
②	10	Plate (starter idle gear)	1	
②	11	Starter idle gear	1	
①	12	Lead guide	1	
①	13	Pickup coil/stator assembly	1	

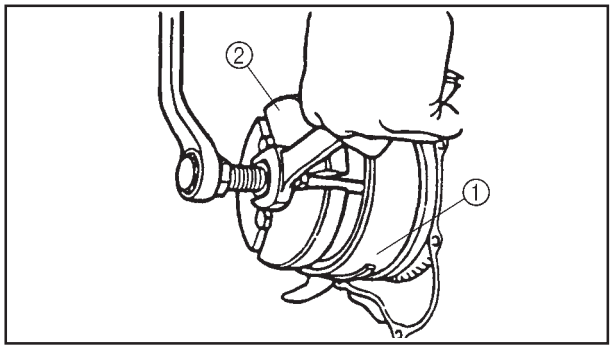


REMOVAL POINTS

Rotor

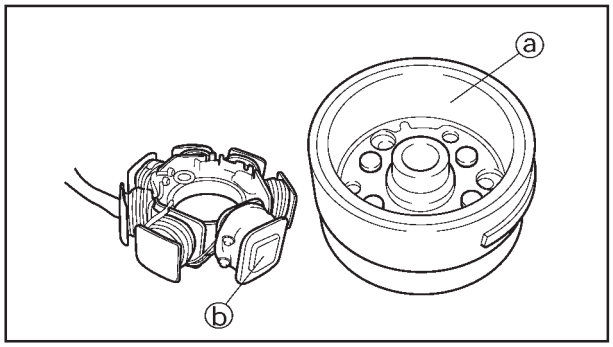
1. Remove:
   - Nut (rotor) ①
   - Plain washer ②
   Use the sheave holder ③.

	Sheave holder: YS-1880-A/90890-01701



2. Remove:
   - Rotor ①
   Use the flywheel puller ②.

	Flywheel puller: YU-33270-B/90890-01362



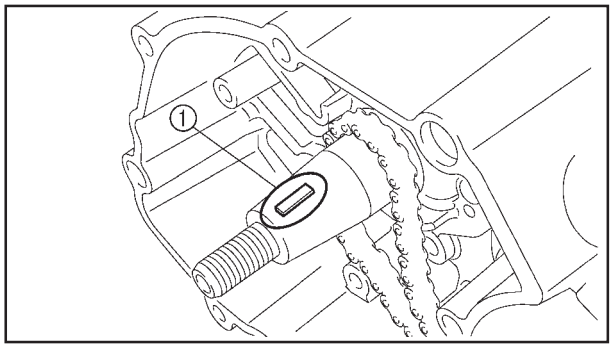
EC4L4000

INSPECTION

EC4L4101

CDI magneto

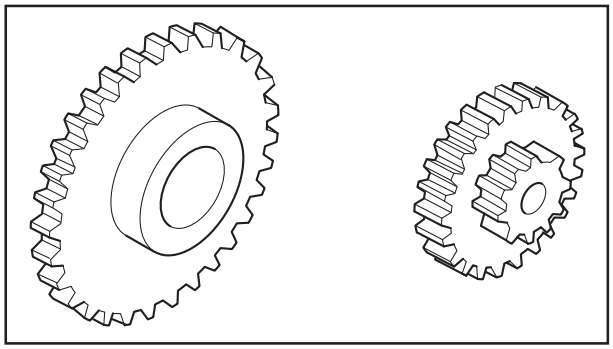
1. Inspect:
   - Rotor inner surface ⓐ
   - Stator outer surface ⓑ
   Damage → Inspect the crankshaft runout and crankshaft bearing.
   If necessary, replace CDI magneto and/or stator.



EC4L4200

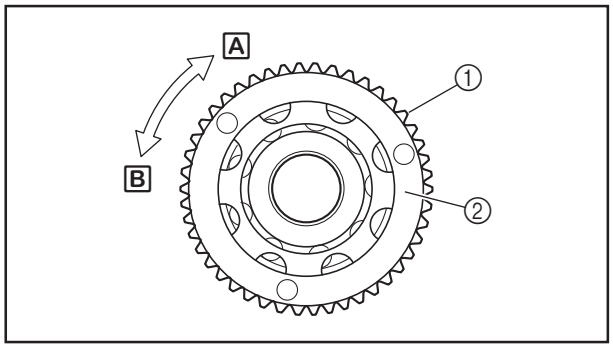
Woodruff key

1. Inspect:
   - Woodruff key ①
   Damage → Replace.



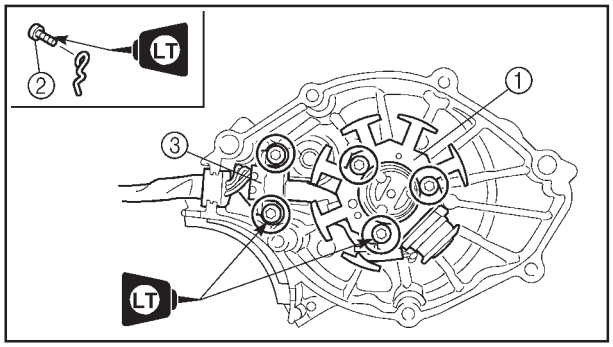
Starter clutch

1. Check:
   - Starter clutch
   Damage/wear → Replace.
2. Check:
   - Idle gear
   - Starter clutch gear
   Pitting/burrs/chips/roughness/wear → Replace the defective parts.



3. Check:
   • Starter clutch operation

• Install the starter clutch drive gear ① onto the starter clutch ② and hold the starter clutch.
• When turning the starter clutch drive gear counterclockwise [B], the starter clutch and the starter clutch drive gear should engage. If the starter clutch drive gear and starter clutch do not engage, the starter clutch is faulty and must be replaced.
• When turning the starter clutch drive gear clockwise [A], it should turn freely. If the starter clutch drive gear does not turn freely, the starter clutch is faulty and must be replaced.



EC4L5000

ASSEMBLY AND INSTALLATION

CDI magneto

1. Install:
   • Stator ①
   • Bolt (stator)

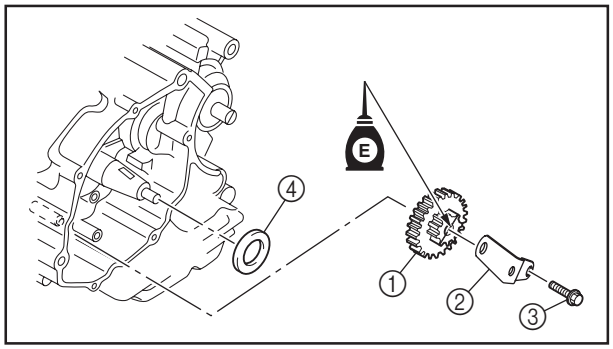
10 Nm (1.0 m · kg, 7.2 ft · lb

   • Lead guide
   • Screw (lead guide) ②

7 Nm (0.7 m · kg, 5.1 ft · lb)

   • Pickup coil ③
   • Bolt (pickup coil)

10 Nm (1.0 m · kg, 7.2 ft · lb



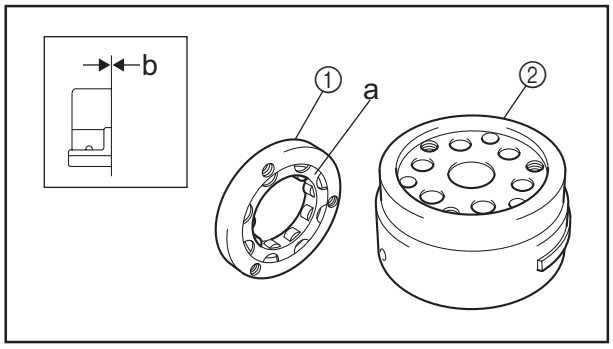
2. Install:
   • Stater idle gear ①
   • Plate ②
   • Bolt ③

7 Nm (0.7 m · kg, 5.1 ft · lb)

   • Washer ④

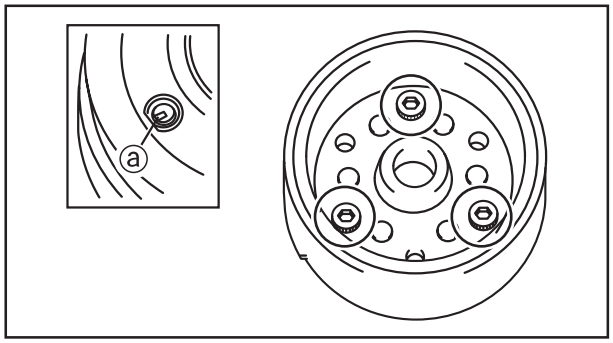
TIP

Apply the engine oil on the starter idle gear inner circumference.



3. Install the starter clutch ① on the rotor ②.

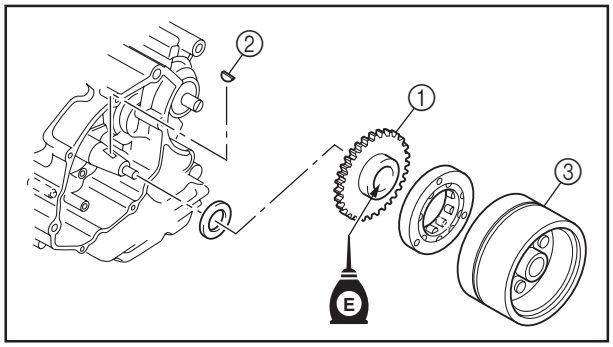
TIP
- Install the starter clutch with its plate portion ⓐ facing the rotor.
- Insert the plate portion of the starter clutch so that it is flush with the surface of contact ⓑ with the rotor.



4. Tighten:
   - Bolt (starter clutch)

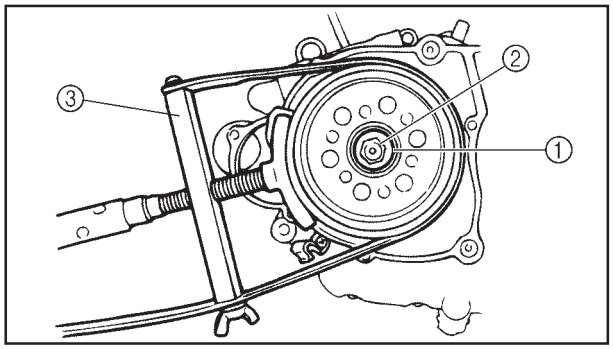
	30 Nm (3.0 m · kg, 22 ft · lb)

TIP
Caulk ⓐ the end of the starter clutch holding bolt near its outer diameter to serve as a stopper.



5. Install:
   - Starter wheel gear ①
   - Woodruff key ②
   - Rotor ③

TIP
- Clean the tapered portion of the crankshaft and the magneto hub.
- When installing the magneto rotor, make sure the woodruff key is properly seated in the key way of the crankshaft.
- Apply the engine oil on the starter wheel gear inner circumference.

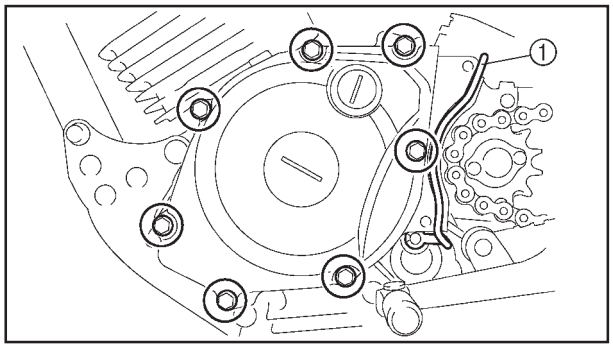


6. Install:
   - Plain washer ①
   - Nut (magneto) ②

	80 Nm (8.0 m · kg, 58 ft · lb)

TIP
Tighten the nut (magneto) while holding the magneto with a sheave holder ③.

	Sheave holder: **YS-1880-A/90890-01701**



7. Install:
   • Crankcase cover (left)

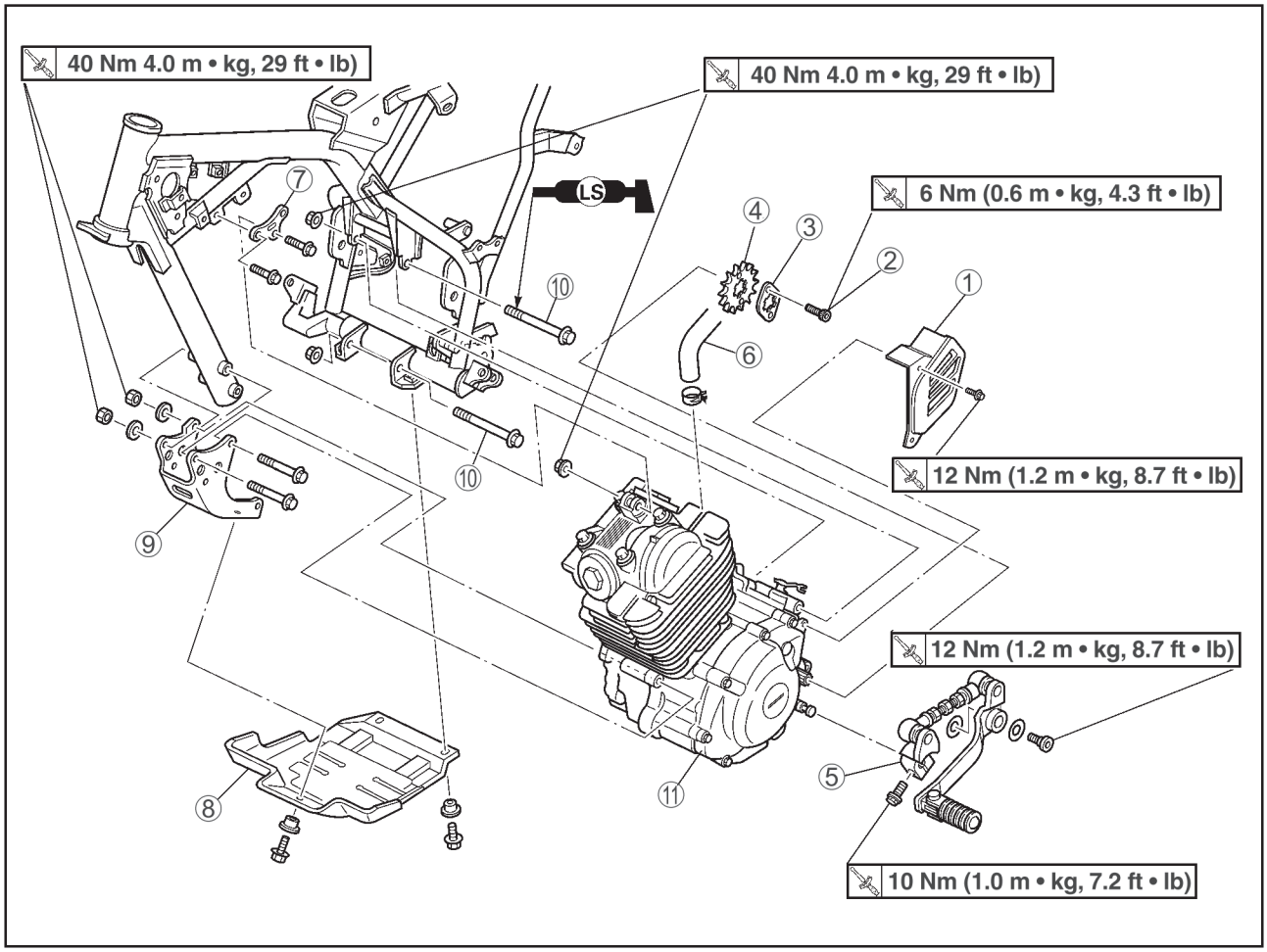
8. Connect:
   • Neutral switch lead ①

TIP

Pass the neutral switch lead into the crankcase cover groove as shown.

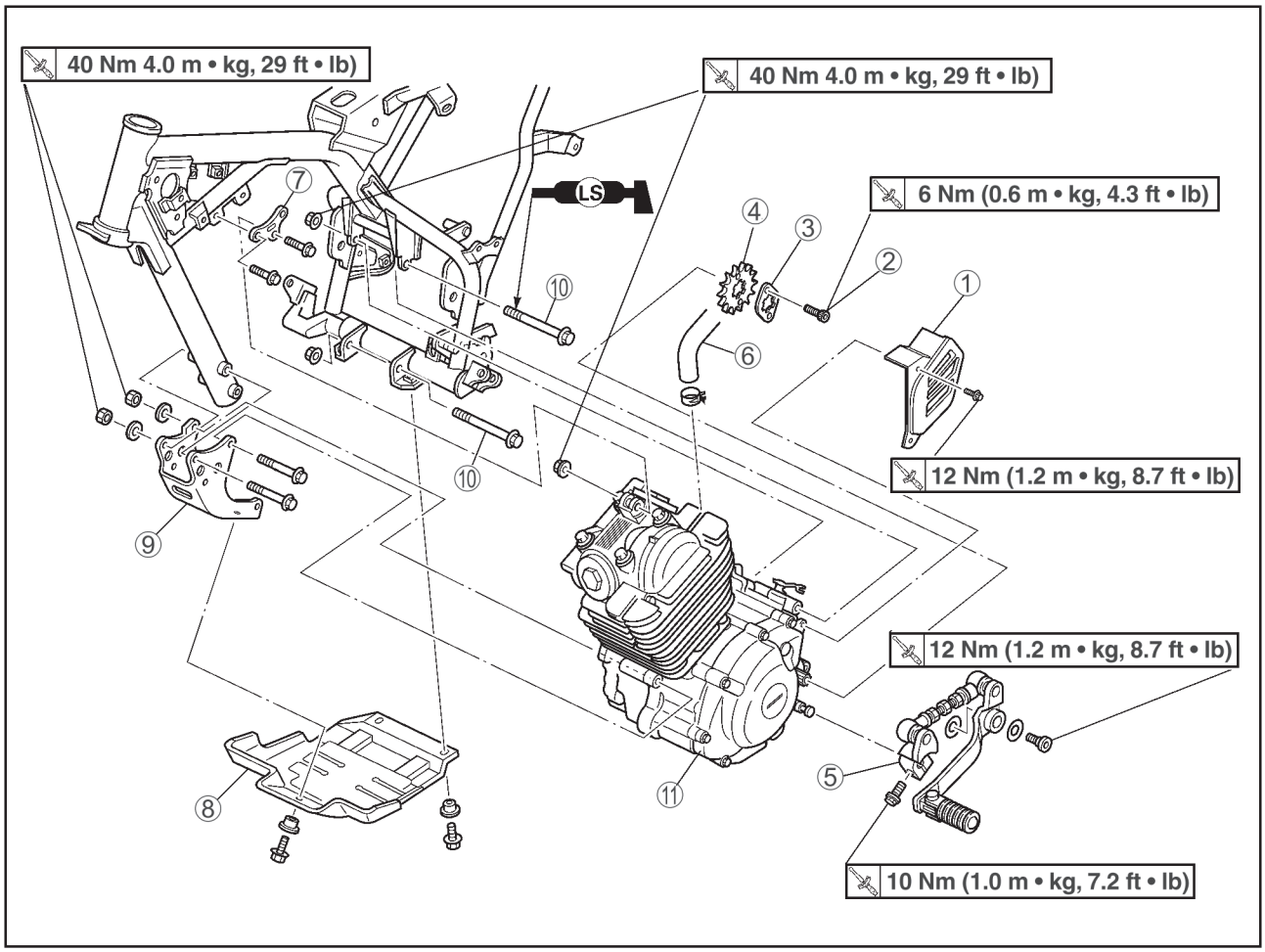
9. Connect:
   • CDI magneto lead
   Refer to CABLE ROUTING DIAGRAM section in the CHAPTER 2.

ENGINE REMOVAL


40 Nm 4.0 m • kg, 29 ft • lb)
40 Nm 4.0 m • kg, 29 ft • lb)
6 Nm (0.6 m • kg, 4.3 ft • lb)
12 Nm (1.2 m • kg, 8.7 ft • lb)
12 Nm (1.2 m • kg, 8.7 ft • lb)
10 Nm (1.0 m • kg, 7.2 ft • lb)
LS
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑩ ⑪

Extent of removal: ① Engine removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**ENGINE REMOVAL** Hold the machine by placing the suitable stand under the frame.		
		Seat, fuel tank and side covers		Refer to SEAT, FUEL TANK AND SIDE COVERS section.
		Carburetor		Refer to CARBURETOR section.
		Muffler		Refer to MUFFLER section.
		Clutch cable		Disconnect at engine side.
		Spark plug cap		
		Disconnect the CDI magneto lead.		
		Disconnect the neutral switch lead.		
		Starter motor.		Refer to ELECTRIC STARTING SYSTEM section in the CHAPTER 6.
		Drain the engine oil.		Refer to ENGINE OIL REPLACEMENT section in the CHAPTER 3.


40 Nm 4.0 m • kg, 29 ft • lb)
40 Nm 4.0 m • kg, 29 ft • lb)
6 Nm (0.6 m • kg, 4.3 ft • lb)
12 Nm (1.2 m • kg, 8.7 ft • lb)
12 Nm (1.2 m • kg, 8.7 ft • lb)
10 Nm (1.0 m • kg, 7.2 ft • lb)
LS
①
②
③
④
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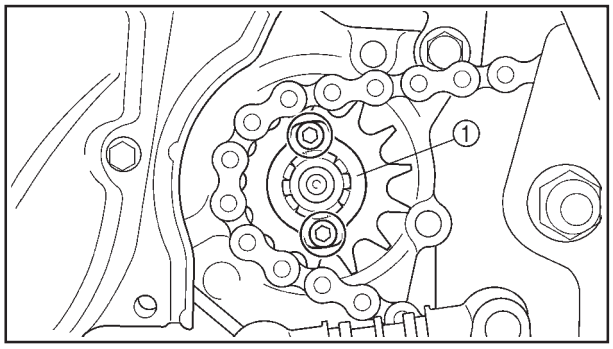
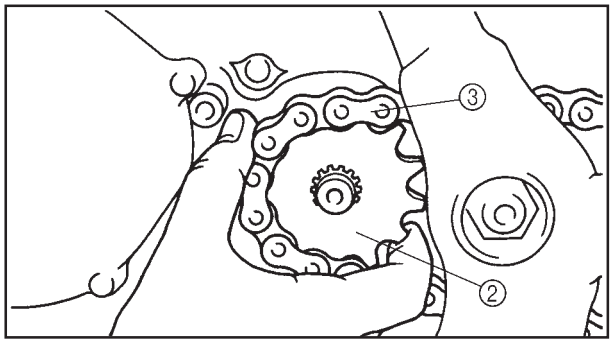
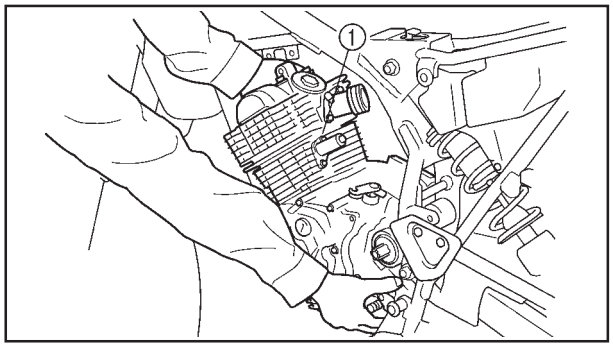
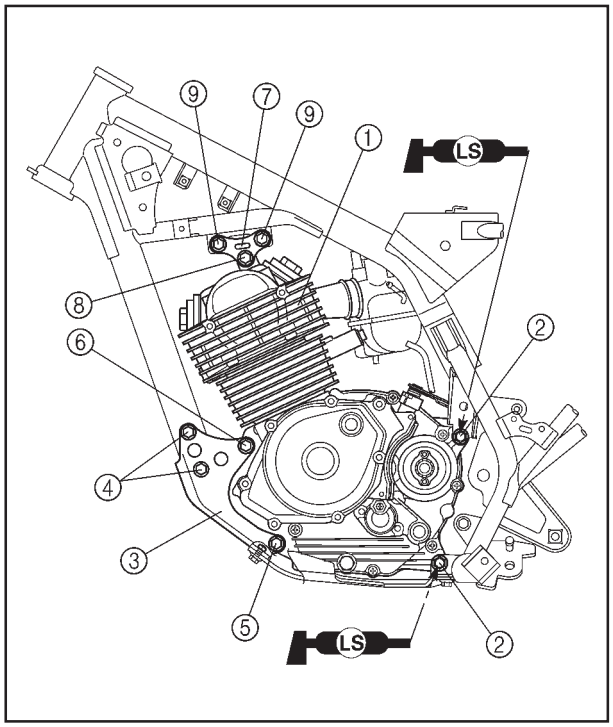
⑧
⑨
⑩
⑪

Extent of removal	Order	Part name	Q'ty	Remarks
①	1	Drive sprocket cover	1	
	2	Bolt (drive sprocket)	2	Refer to REMOVAL POINTS
	3	Drive sprocket holder	1	
	4	Drive sprocket	1	
	5	Shift pedal link	1	
	6	Crankcase breather hose	1	
	7	Engine bracket (upper)	1	
	8	Engine skidplate	1	
	9	Engine bracket (front)	1	
	10	Engine mounting bolt (rear)	2	
	11	Engine	1	Refer to REMOVAL POINTS









REMOVAL POINTS

Drive sprocket

1. Remove:
   - Bolt (drive sprocket)
   - Drive sprocket holder ①
   - Drive sprocket ②
   - Drive chain ③

TIP

Remove the drive sprocket together with the drive chain.

Engine removal

1. Remove:
   - Engine ①
     From left side.

TIP

Make sure that the couplers, hoses and cables are disconnected.

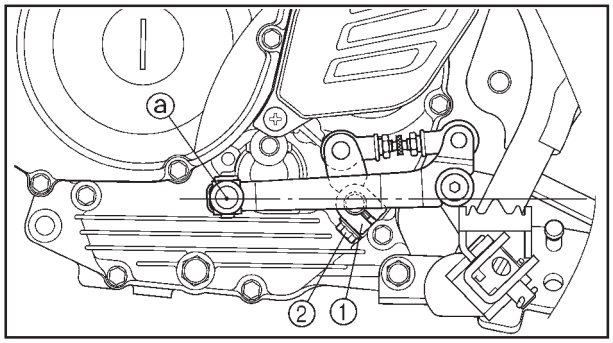
ASSEMBLY AND INSTALLATION

Engine installation

1. Install:
   - Engine ①
     Install the engine from left side.
   - Engine mounting bolt (rear) ②
     40 Nm (4.0 m · kg, 29 ft · lb)
   - Engine bracket (front) ③
   - Bolt (engine bracket) ④
     40 Nm (4.0 m · kg, 29 ft · lb)
   - Engine mounting bolt (lower) ⑤
     40 Nm (4.0 m · kg, 29 ft · lb)
   - Engine mounting bolt (front) ⑥
     40 Nm (4.0 m · kg, 29 ft · lb)
   - Engine bracket (upper) ⑦
   - Engine mounting bolt (upper) ⑧
     40 Nm (4.0 m · kg, 29 ft · lb)
   - Bolt (engine bracket) ⑨
     40 Nm (4.0 m · kg, 29 ft · lb)

TIP

- Apply the lithium soap base grease on the thread of the engine mounting bolts (rear) ②.
- Tighten the engine mounting bolt (upper) ⑧, and then tighten the bolts (engine bracket) ⑨.



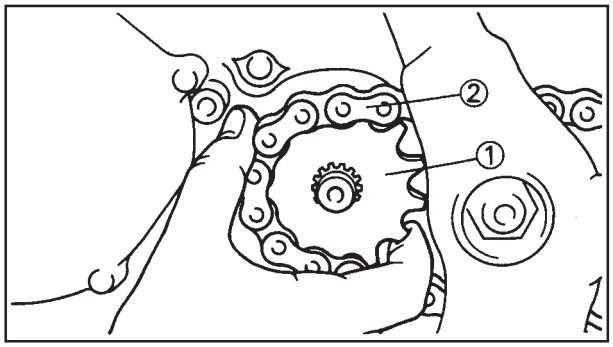
Shift pedal link

1. Install:
   - Shift pedal link ①
   - Bolt (shift pedal link) ②

10 Nm (1.0 m · kg, 7.2 ft · lb)

TIP

Adjust the center ⓐ of the front end of the shift pedal to match the highest point of the footrest.

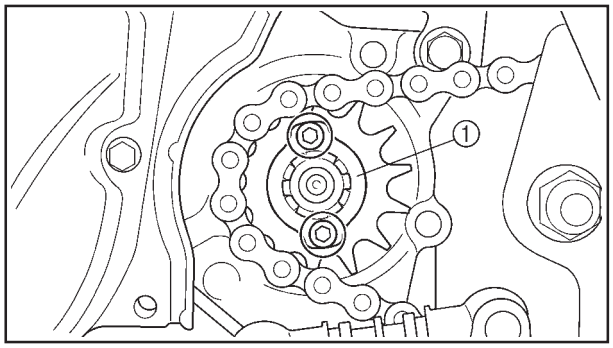


Drive sprocket

1. Install:
   - Drive sprocket ①
   - Drive chain ②

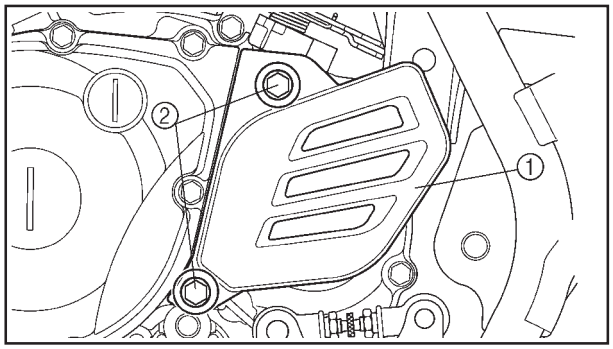
TIP

Install the drive sprocket together with the drive chain.



2. Install:
   - Drive sprocket holder ①
   - Bolt (drive sprocket)

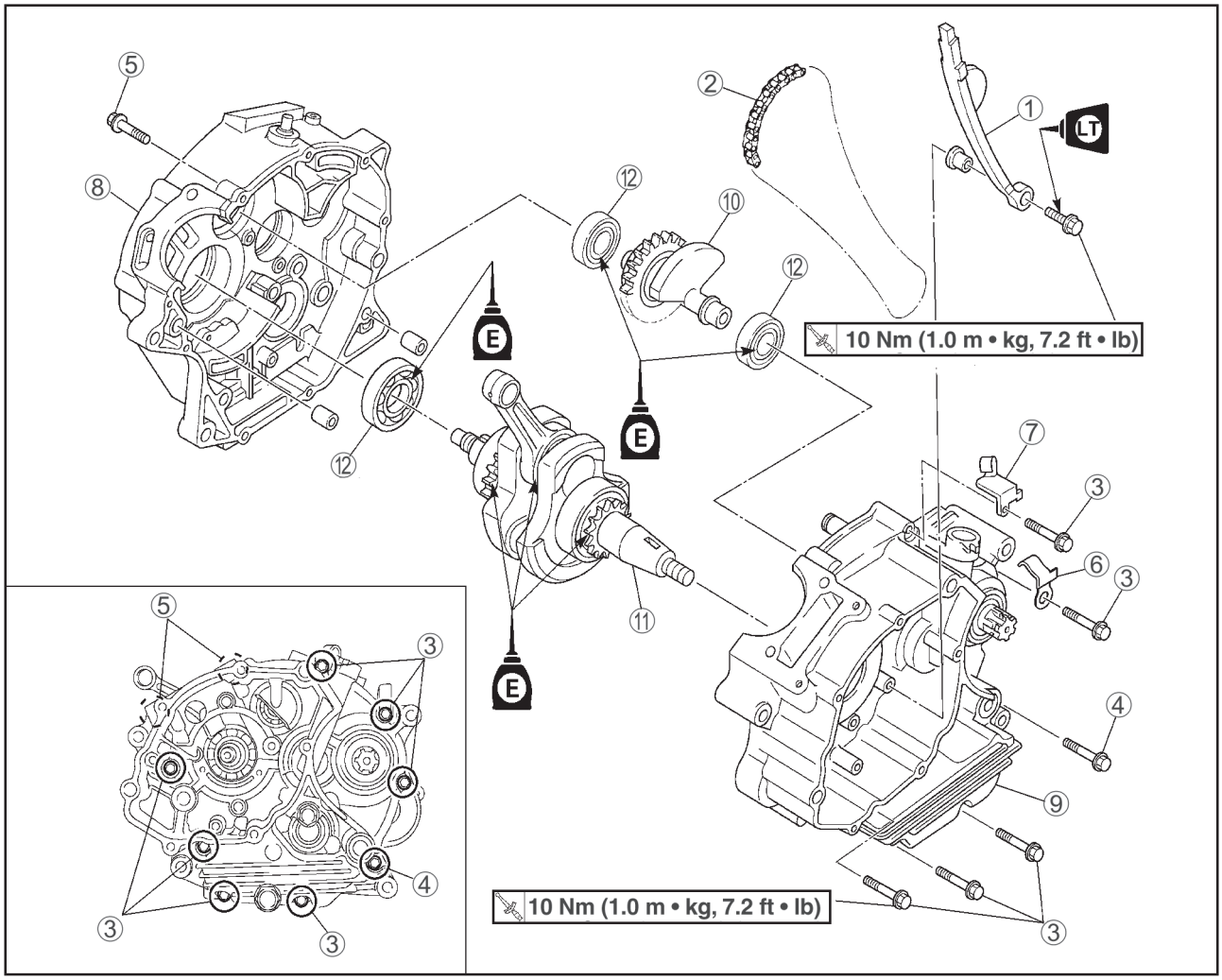
6 Nm (0.6 m · kg, 4.3 ft · lb)



3. Install:
   - Drive sprocket cover ①
   - Bolt (drive sprocket cover) ②

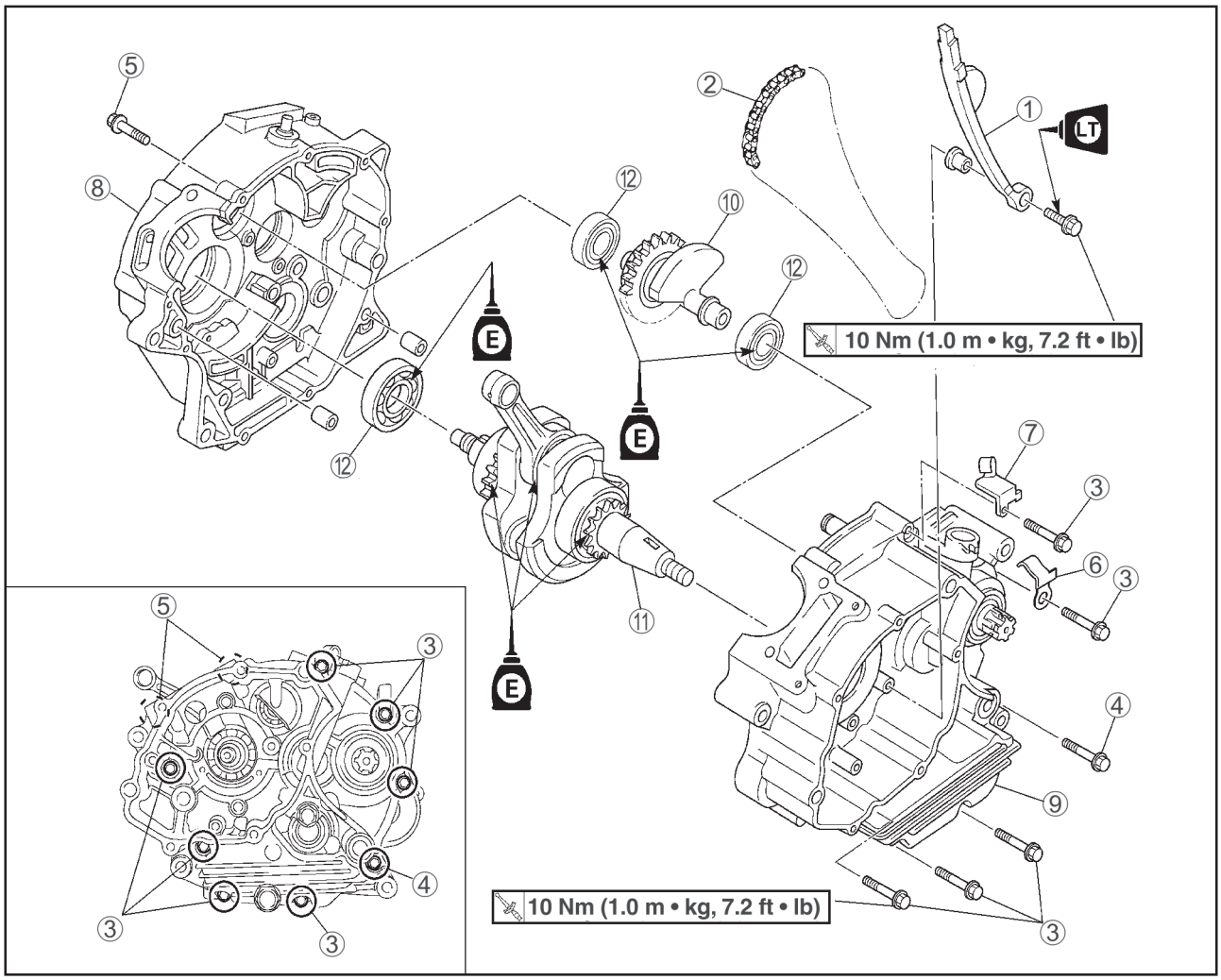
12 Nm (1.2 m · kg, 8.7 ft · lb)

CRANKCASE, CRANKSHAFT AND BALANCER

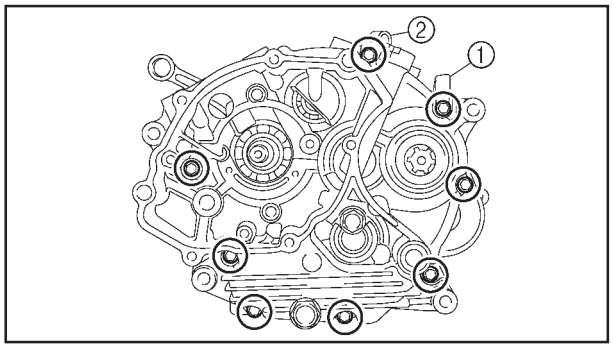


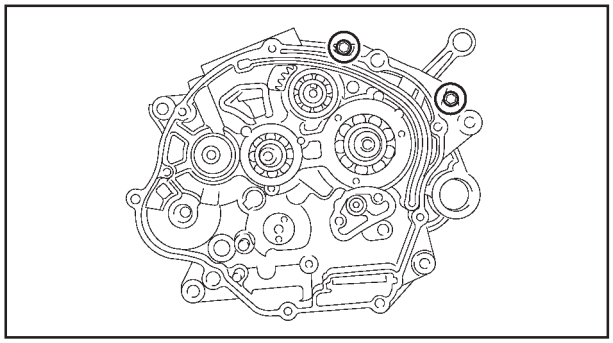
Extent of removal: ① Crankcase separation ② Balancer removal ③ Crankshaft removal

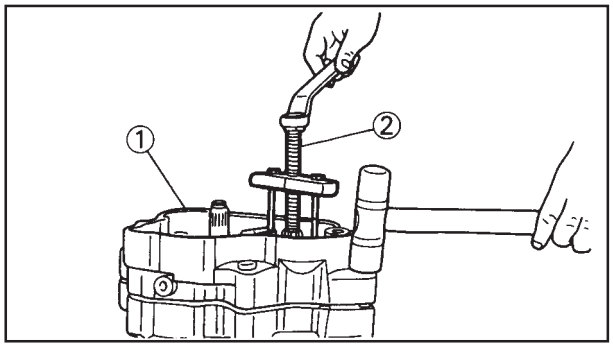
Extent of removal	Order	Part name	Q'ty	Remarks
		CRANKCASE, CRANKSHAFT AND BALANCER REMOVAL		
Preparation for removal		Engine		Refer to ENGINE REMOVAL section.
		Piston		Refer to CYLINDER AND PISTON section.
		Primary drive gear		Refer to CLUTCH AND PRIMARY DRIVEN GEAR section.
		Kick axle assembly Segment		Refer to KICK AXLE AND SHIFT SHAFT section.
		Rotor and starter clutch		Refer to CDI MAGNETO AND STARTER CLUTCH section



Extent of removal	Order	Part name	Q'ty	Remarks
① ② ③	1	Intake timing chain guide	1	
	2	Timing chain	1	
	3	Bolt [45 mm (1.8 in)]	7	
	4	Bolt [55 mm (2.2 in)]	1	
	5	Bolt [30 mm (1.2 in)]	2	
	6	Lead guide	1	
	7	Clutch cable holder	1	
	8	Right crankcase	1	Use special tool.
	9	Left crankcase	1	Refer to REMOVAL POINTS.
	10	Balancer	1	
	11	Crankshaft	1	Use special tool. Refer to REMOVAL POINTS.
	12	Bearing	3	Refer to REMOVAL POINTS.







REMOVAL POINTS

Crankcase

1. Remove:
   - Bolt (crankcase)
   - Lead guide ①
   - Clutch cable holder ②

TIP

Loosen each bolt 1/4 of a turn at a time and after all the bolts are loosened, remove them.

2. Remove:
   - Right crankcase ①

   Use the crankcase separating tool ②.

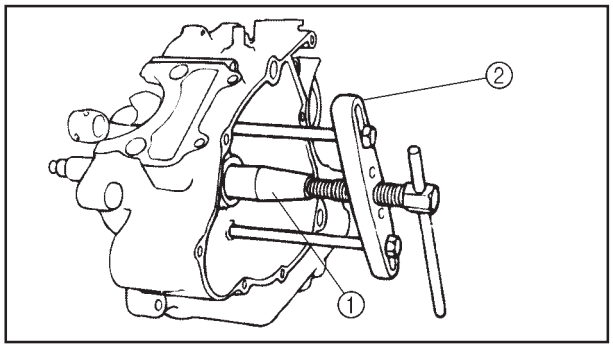
	Crankcase separating tool: YU-1135-A/90890-01135

TIP

- Fully tighten the tool holding bolts, but make sure the tool body is parallel with the case. If necessary, one screw may be backed out slightly to level tool body.
- As pressure is applied, alternately tap on the front engine mounting boss and transmission shafts.

NOTICE

Use soft hammer to tap on the case half. Tap only on reinforced portions of case. Do not tap on gasket mating surface. Work slowly and carefully. Make sure the case halves separate evenly. If one end "hangs up", take pressure off the push screw, realign, and start over. If the cases do not separate, check for a remaining case screw or fitting. Do not force.



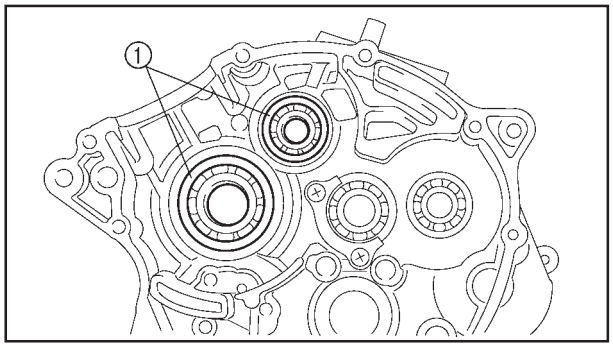
Crankshaft

1. Remove:
   - Crankshaft ①
     Use the crankcase separating tool ②.

	Crankcase separating tool: YU-1135-A/90890-01135

NOTICE

Do not use a hammer to drive out the crankshaft.

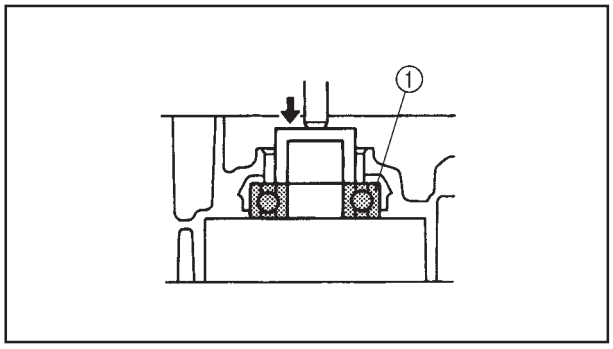


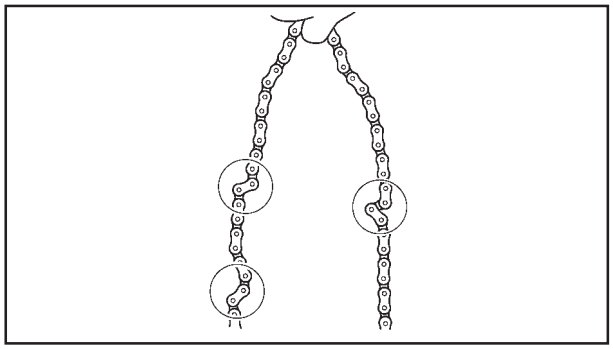
Bearing

1. Remove:
   - Bearing ①

TIP

- Remove the bearing from the crankcase by pressing its inner race as shown in.
- Do not use the removed bearing.

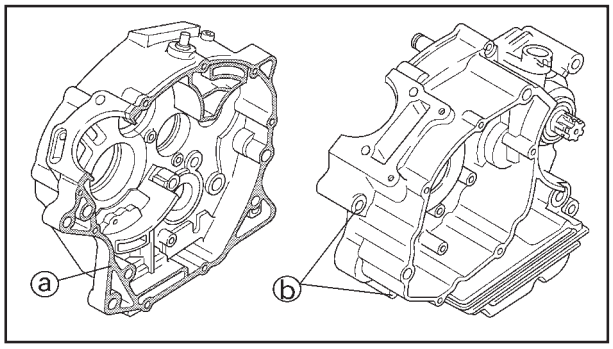




INSPECTION

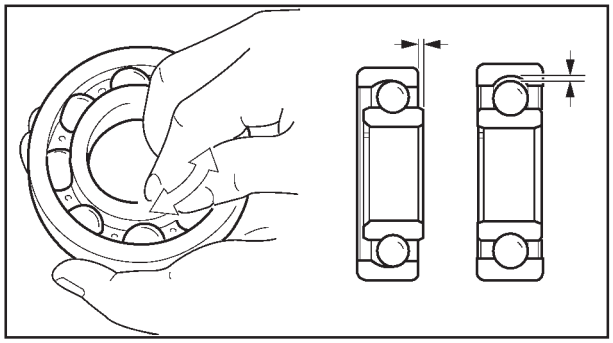
Timing chain and timing chain guide

1. Inspect:
   - Timing chain
     Cracks/stiff → Replace the timing chain and camshaft sprocket as a set.
2. Inspect:
   - Timing chain guide
     Wear/damage → Replace.

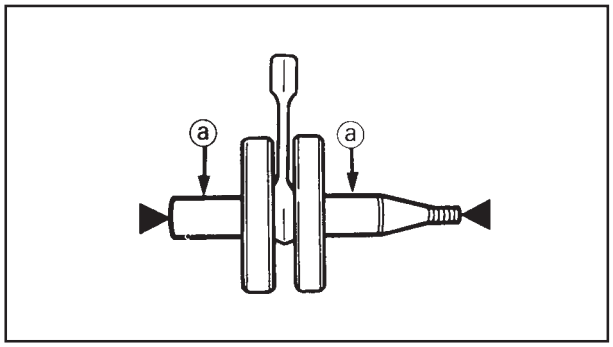


Crankcase

1. Inspect:
   - Contacting surface ⓐ
     Scratches → Replace.
   - Engine mounting boss ⓑ, crankcase
     Cracks/damage → Replace.



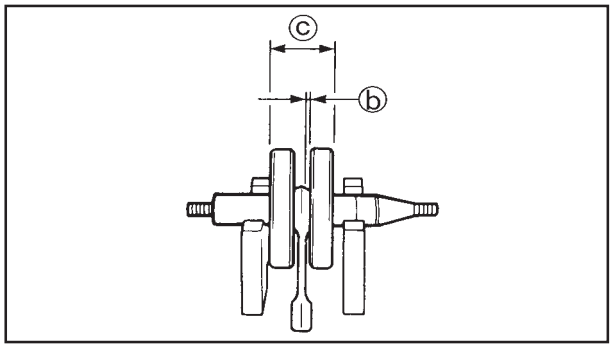
2. Inspect:
   - Bearing
     Rotate inner race with a finger.
     Rough spot/seizure → Replace.



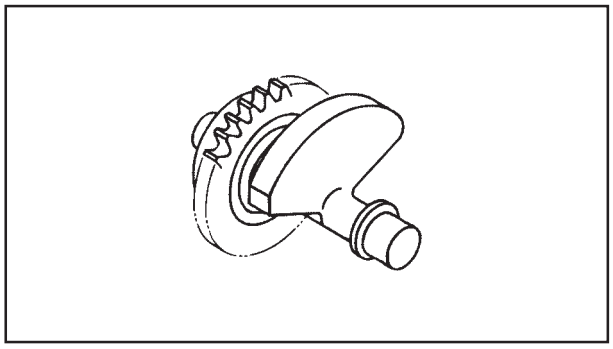
Crankshaft

1. Measure:
   - Runout limit ⓐ
   - Connecting rod big end side clearance ⓑ
   - Crank width ⓒ
     Out of specification → Replace.
     Use the dial gauge and a thickness gauge.

	Dial gauge & stand set: YU-3097/90890-01252

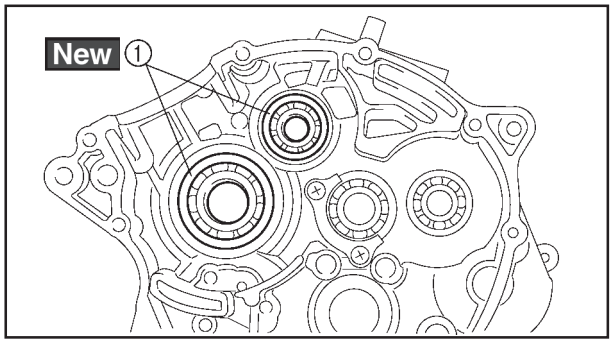


	Standard	<Limit>
Runout limit:	—	**0.03 mm (0.0012 in)**
Side clearance:	**0.15 ~ 0.45 mm (0.0059 ~ 0.0177 in)**	**0.50 mm (0.02 in)**
Crack width:	**46.95 ~ 47.00 mm (1.848 ~ 1.850 in)**	—



Balancer

1. Inspect:
   - Balancer
     Cracks/damage → Replace.



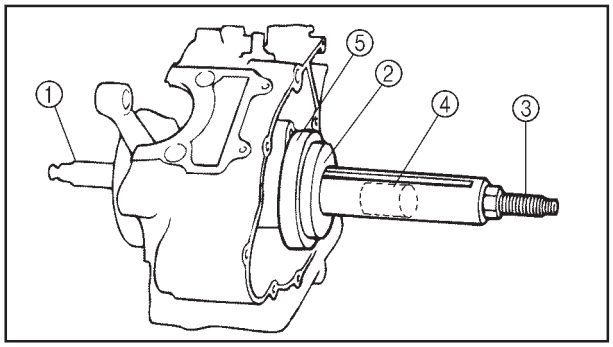
ASSEMBLY AND INSTALLATION

Bearing

1. Install:
   - Bearing ① **New**
     On crankcase (left and right).

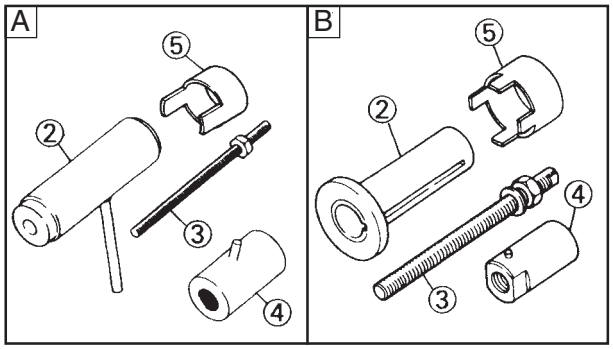
TIP

Install the bearing by pressing its outer race parallel.



Crankshaft

1. Install:
   - Crankshaft ①
     Use the crankshaft installing tool ②, ③, ④, ⑤.



Crankshaft installing tool:
Crankshaft installer pot ②:
YU-90050/90890-01274
Crankshaft installer bolt ③:
YU-90050/90890-01275
Adapter ④:
YU-90063/90890-01278
Spacer ⑤:
YM-91044/90890-04081

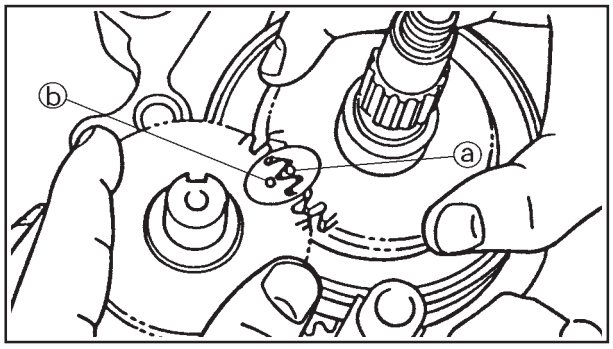
A For USA and CDN
B Except for USA and CDN

TIP

- Hold the connecting rod at top dead center with one hand while turning the nut of the installing tool with the other. Operate the installing tool until the crankshaft bottoms against the bearing.
- Before installing the crankshaft, clean the contacting surface of crankcase.

NOTICE

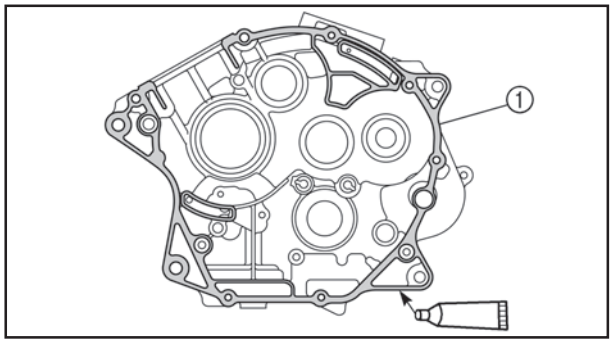
Do not use a hammer to drive in the crankshaft.



2. Install:
   • Balancer

TIP

Align the punched mark ⓐ on the balancer drive gear with the punched mark ⓑ on the balancer driven gear.



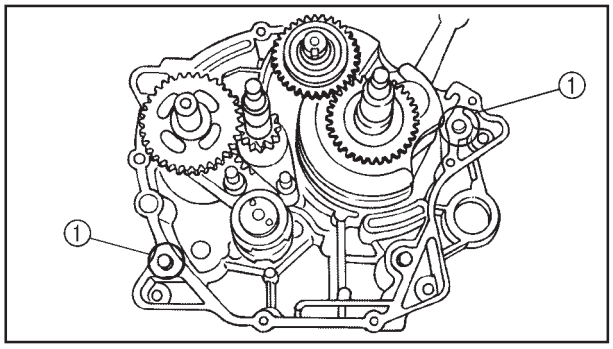
Crankcase

1. Apply:
   • Sealant On the right crankcase ①.

Quick gasket®:
ACC-QUICK-GS-KT
YAMAHA Bond No.1215:
90890-85505

TIP

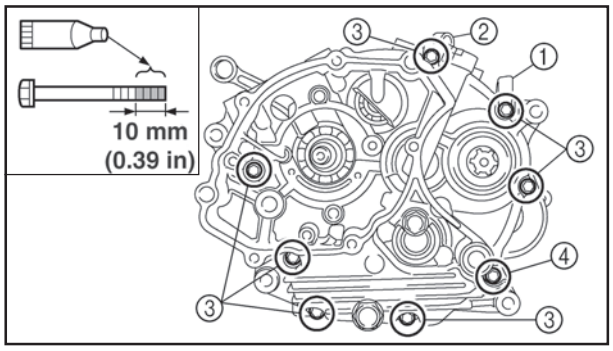
Clean the contacting surface of crankcase (left and right) before applying the sealant.

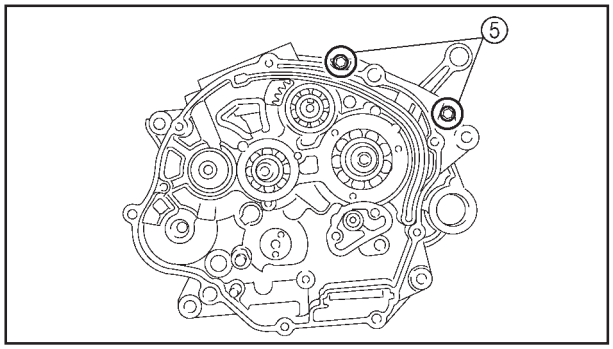


2. Install:
   • Dowel pin ①
   • Right crankcase
     On left crankcase.

TIP

- Fit the right crankcase onto the left crankcase. Tap lightly on the case with soft hammer.
- When installing the crankcase, the connecting rod should be positioned at TDC (top dead center).





3. Tighten:
   - Lead guide ①
   - Clutch cable holder ②
   - Bolt (crankcase) [45 mm (1.8 in)] ③

     10 Nm (1.0 m · kg, 7.2 ft · lb)
   - Bolt (crankcase) [55 mm (2.2 in)] ④

     10 Nm (1.0 m · kg, 7.2 ft · lb)
   - Bolt (crankcase) [30 mm (1.2 in)] ⑤

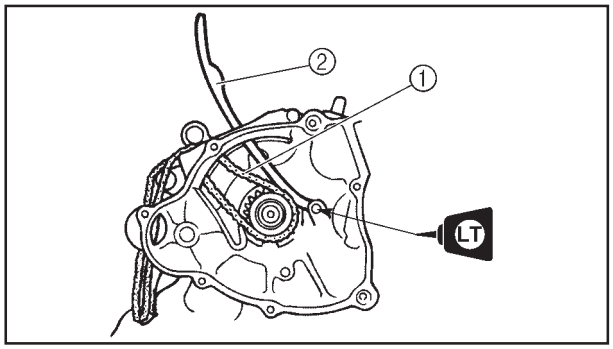
     10 Nm (1.0 m · kg, 7.2 ft · lb)

TIP

- Apply Quick gasket® (YAMAHA Bond No.1215) on end of the crankcase bolts [45 mm (1.8 in)] ③, as shown.
- Tighten the crankcase bolts in stage, using a crisscross pattern.

Quick gasket®:
ACC-QUICK-GS-KT
YAMAHA Bond No.1215:
90890-85505

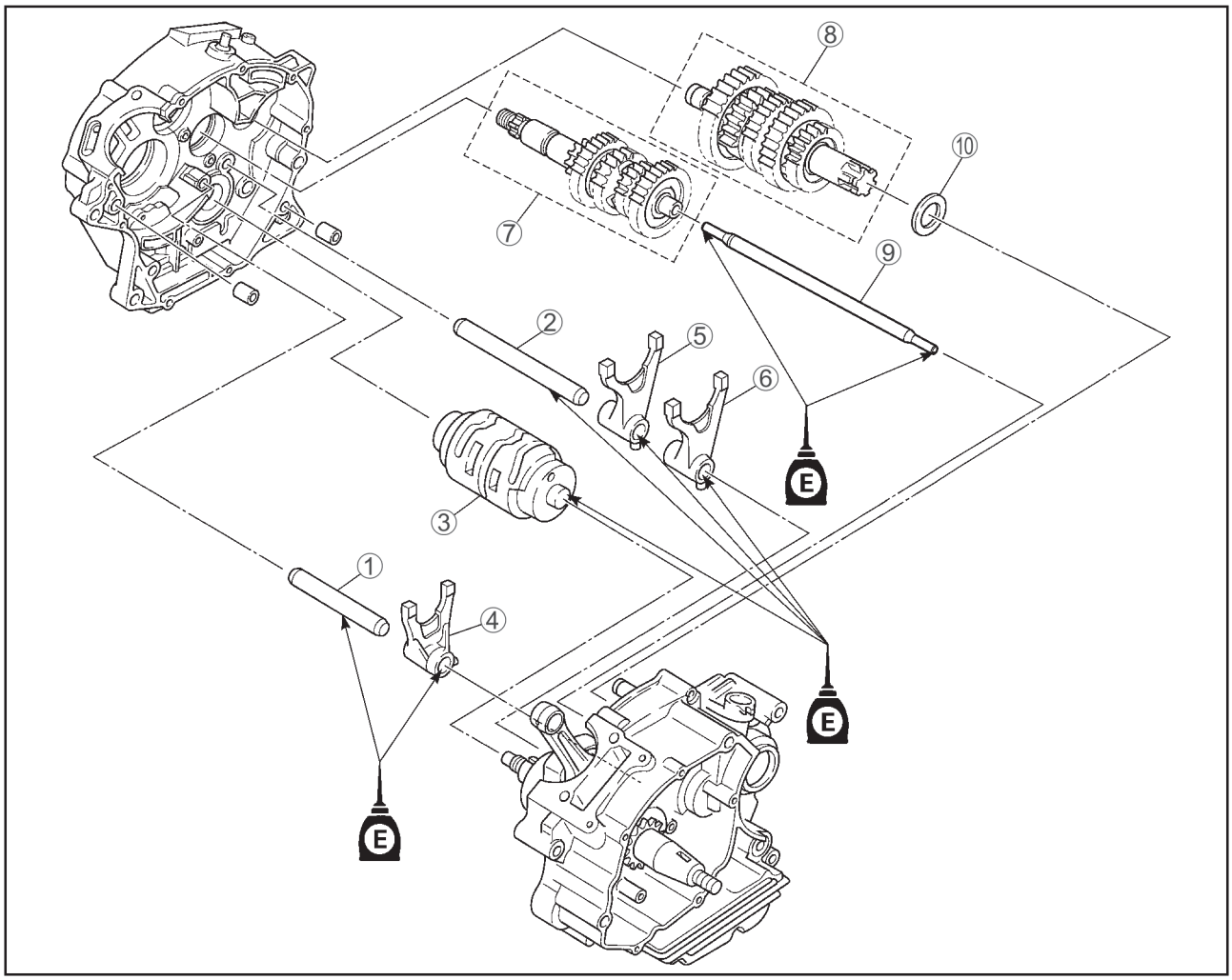
4. Check:
   - Crankshaft and transmission operation
     Unsmooth operation → Repair.



5. Install:
   - Timing chain ①
   - Intake timing chain guide ②
   - Bolt (intake timing chain guide)

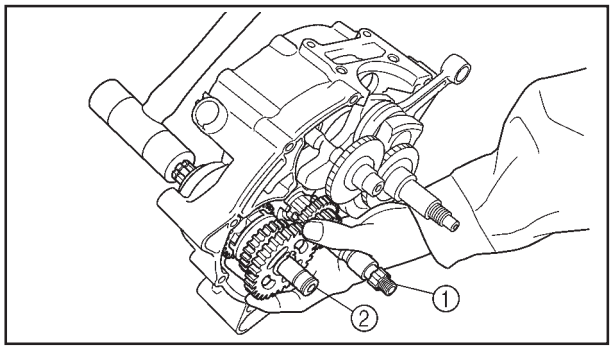
     10 Nm (1.0 m · kg, 7.2 ft · lb)

TRANSMISSION, SHIFT CAM AND SHIFT FORK



Extent of removal: ① Shift cam and shift fork removal ② Main axle and drive axle removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparação para remoção		**TRANSMISSION, SHIFTCAM AND SHIFT FORK REMOVAL** Engine Separate the crankcase		 Refer to ENGINE REMOVAL section. Refer to CRANKCASE, CRANKSHAFT AND BALANCER section.
① ②	1 2 3 4 5 6 7 8 9 10	Shift fork guide bar 1 (short) Shift fork guide bar 2 (long) Shift cam Shift fork 2 (C) Shift fork 3 (R) Shift fork 1 (L) Main axle Drive axle Push rod 2 Washer	1 1 1 1 1 1 1 1 1 1	 Refer to REMOVAL POINTS.



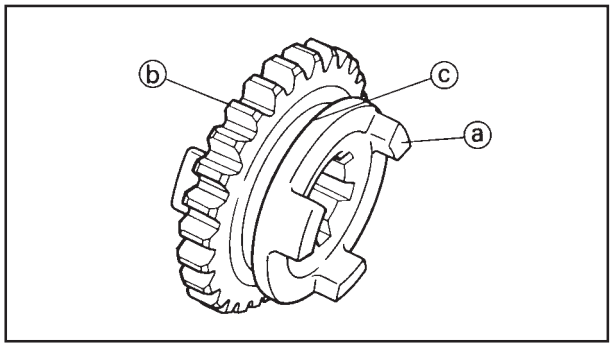
REMOVAL POINTS

Transmission

1. Remove:
   - Main axle ①
   - Drive axle ②

TIP

- Tap lightly on the transmission drive axle with a soft hammer to remove.
- Remove assembly carefully. Note the position of each part. Pay particular attention to the location and direction of shift forks.



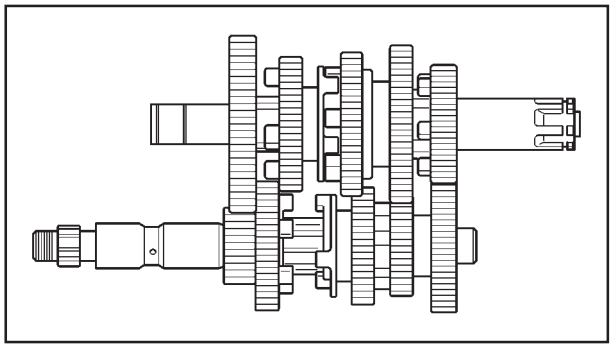
EC4H4000

INSPECTION

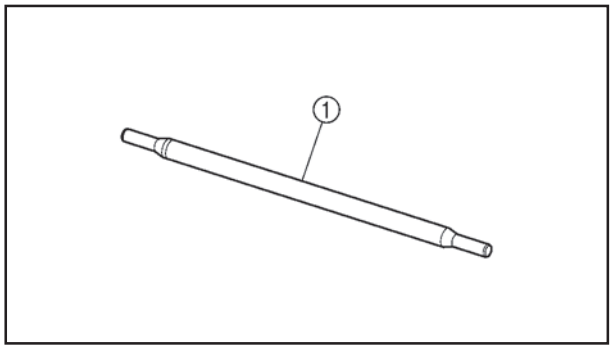
EC4H4200

Gears

1. Inspect:
   - Matching dog ⓐ
   - Gear teeth ⓑ
   - Shift fork groove ⓒ
   Wear/damage → Replace.

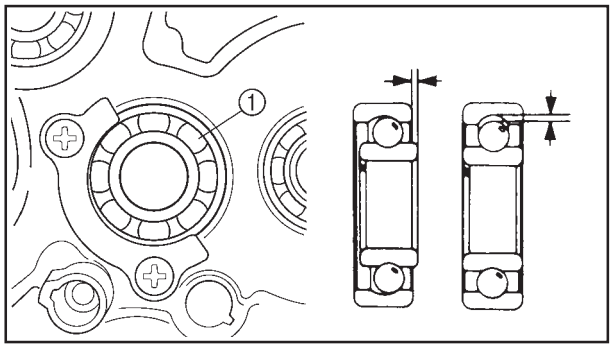


2. Check:
   - Gears movement
   Unsmooth movement → Repair or replace.



Push rod

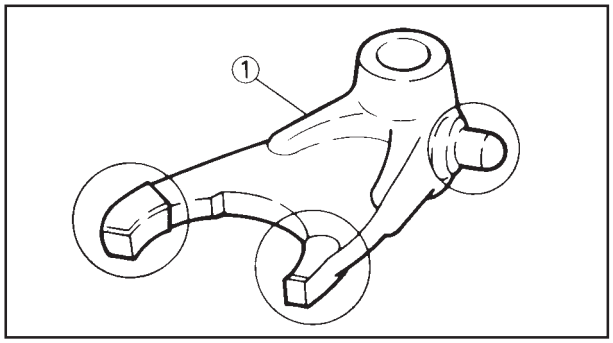
1. Inspect:
   - Push rod 2 ①
   Wear/damage/bend → Replace.



EC4H4600

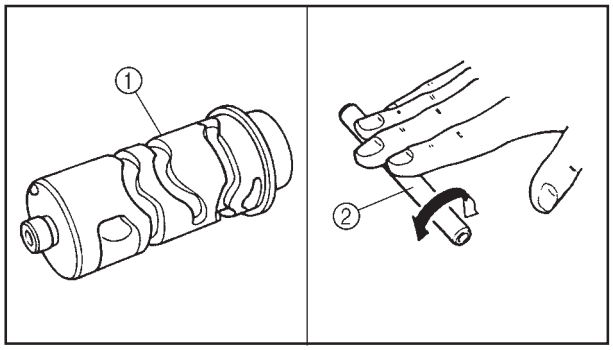
Bearing

1. Inspect:
   - Bearing ①
     Rotate inner race with a finger.
     Rough spot/seizure → Replace.

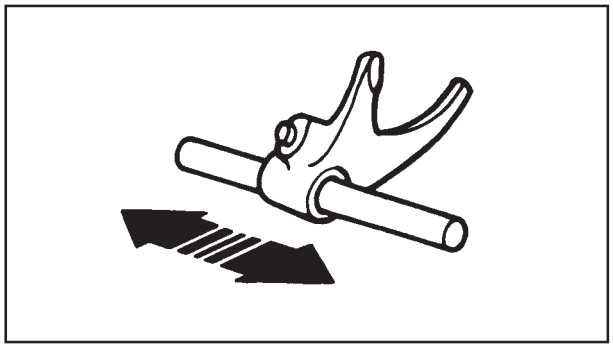


Shift fork and shift cam

1. Inspect:
   - Shift fork ①
     Wear/damage/scratches → Replace.



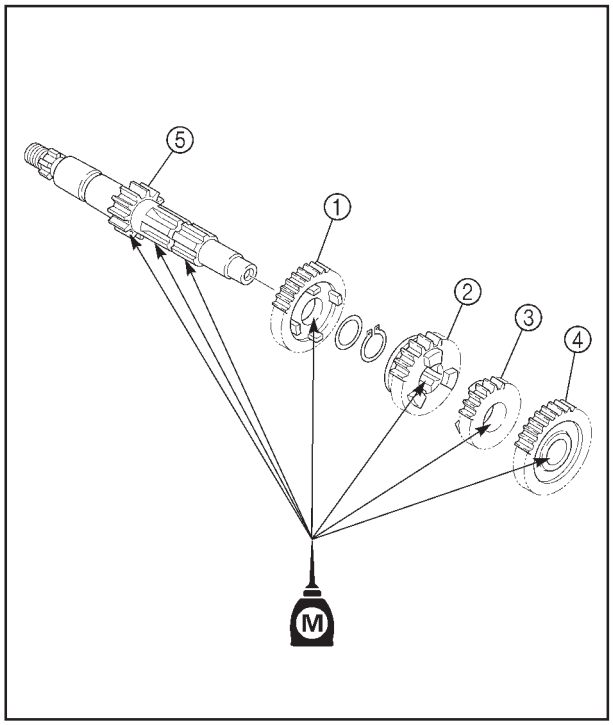
2. Inspect:
   - Shift cam ①
   - Shift fork guide bar ②
     Bend/wear/damage → Replace.



3. Check:
   - Shift fork movement
     On its guide bar.
     Unsmooth operation → Replace shift fork and/or guide bar.

TIP

For a malfunctioning shift fork, replace not only the shift fork itself but the two gears each adjacent to the shift fork.



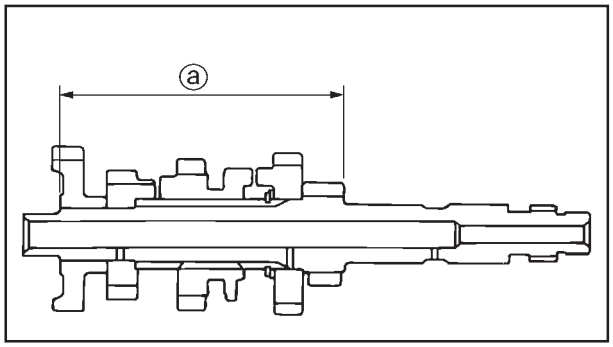
Transmission

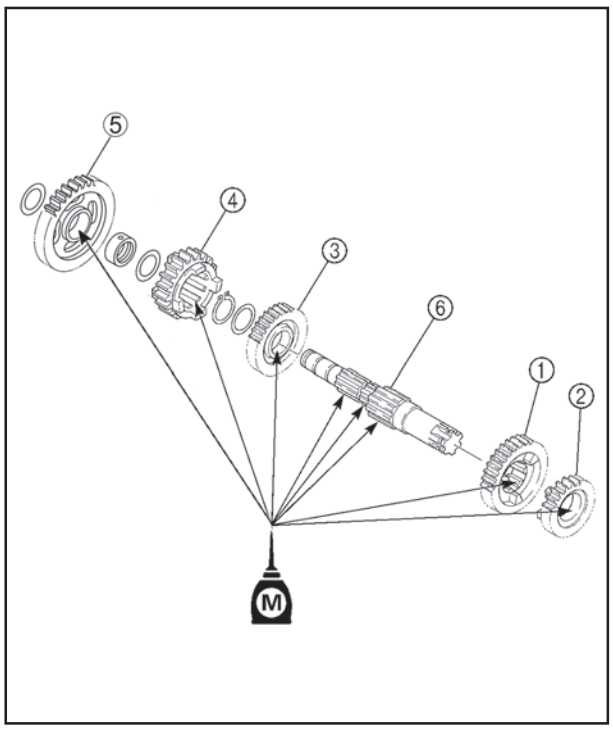
1. Install:
   - 4th pinion gear (22T) ①
   - 3rd pinion gear (19T) ②
   - 2nd pinion gear (18T) ③
   - 5th pinion gear (24T) ④

   On main axle ⑤.

TIP

- Apply the molybdenum disulfide oil on the gears inner circumference.
- Install the 5th pinion gear so that measurement ⓐ is 83.25 ~ 83.45 mm (3.278 ~ 3.285 in).



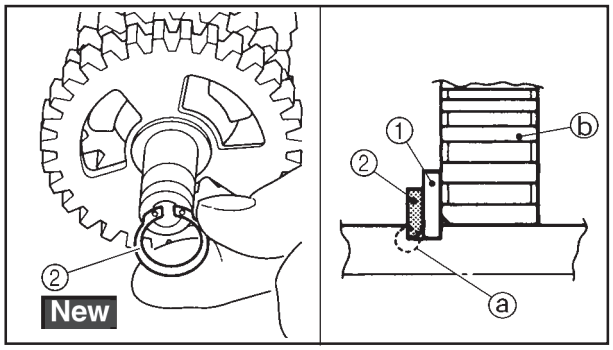


2. Install:
   - 2nd wheel gear (32T) ①
   - 5th wheel gear (21T) ②
   - 3rd wheel gear (25T) ③
   - 4th wheel gear (23T) ④
   - 1st wheel gear (37T) ⑤

   On drive axle ⑥.

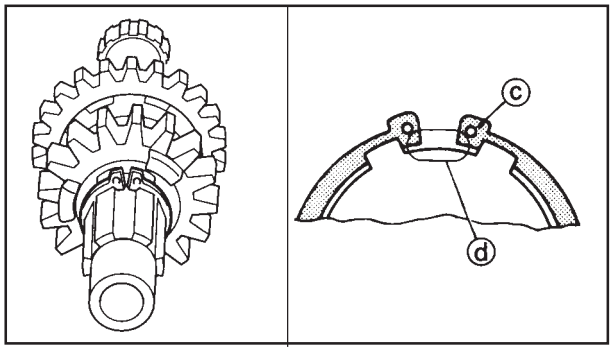
TIP

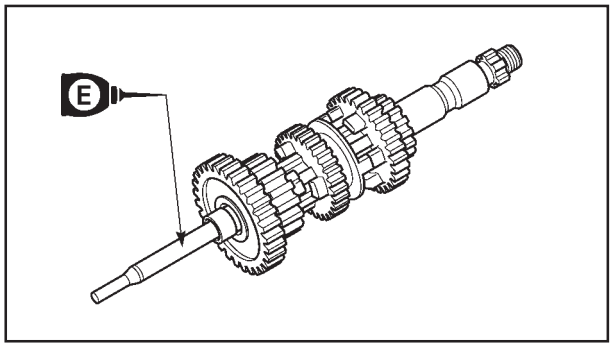
Apply the molybdenum disulfide oil on the gears inner circumference.



3. Install:
   - Plain washer ①
   - Circlip ② **New**

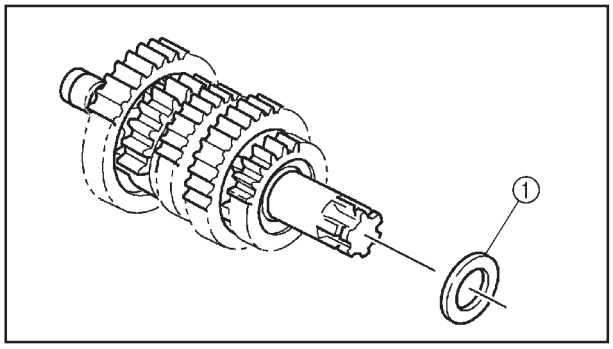
TIP
- Be sure the circlip sharp-edged corner ⓐ is positioned opposite side to the plain washer and gear ⓑ
- Be sure the circlip end ⓒ is positioned at axle spline groove ⓓ.





4. Install:
   - Push rod 2
     On main axle.

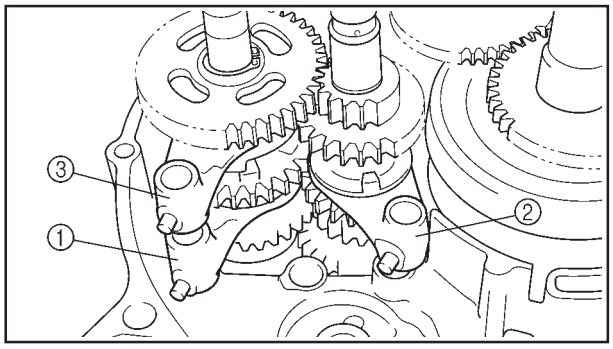
TIP
Apply the engine oil on the push rod 2.



5. Install:
   - Washer ①
     On drive axle.

6. Install:
   - Main axle
   - Drive axle
     Install these in the left crankcase at the same time.

TIP
- Apply the lithium soap base grease on the oil seal lip.
- When installing the drive axle into the crankcase, pay careful attention to the crankcase oil seal lip.

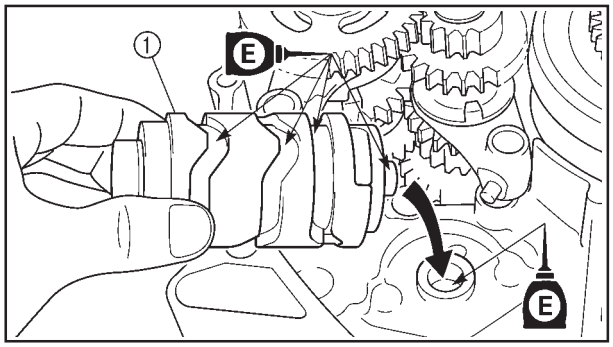


Shift cam and shift fork

1. Install:
   - Shift fork 1 (L) ①
   - Shift fork 2 (C) ②
   - Shift fork 3 (R) ③

TIP

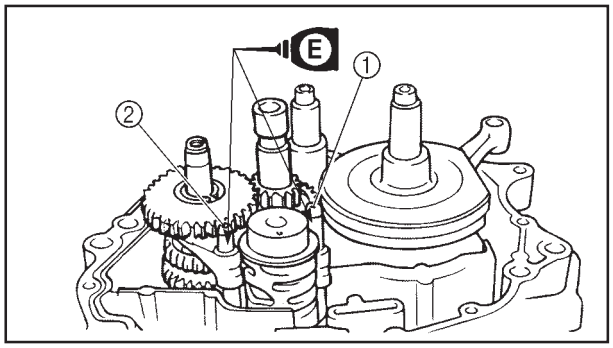
- Mesh the shift fork #1 (L) with the 2nd wheel gear and #3 (R) with the 4th wheel gear on the drive axle.
- Mesh the shift fork #2 (C) with the 3rd pinion gear on the main axle.



2. Install:
   - Shift cam ①

TIP

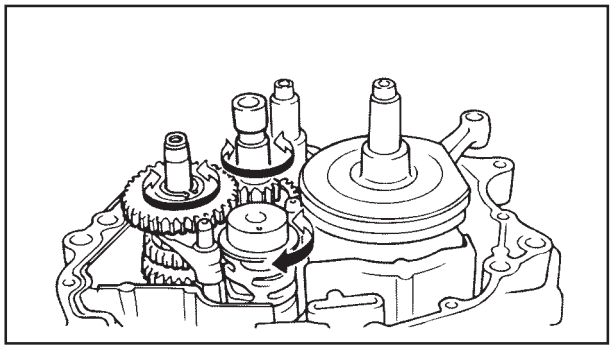
Apply the engine oil on the shift cam.



3. Install:
   - Shift fork guide bar 1 (short) ①
   - Shift fork guide bar 2 (long) ②

TIP

- Apply the engine oil on the guide bars.
- Be sure the long bar is inserted into the shift forks #1 and #3 and the short one into #2.

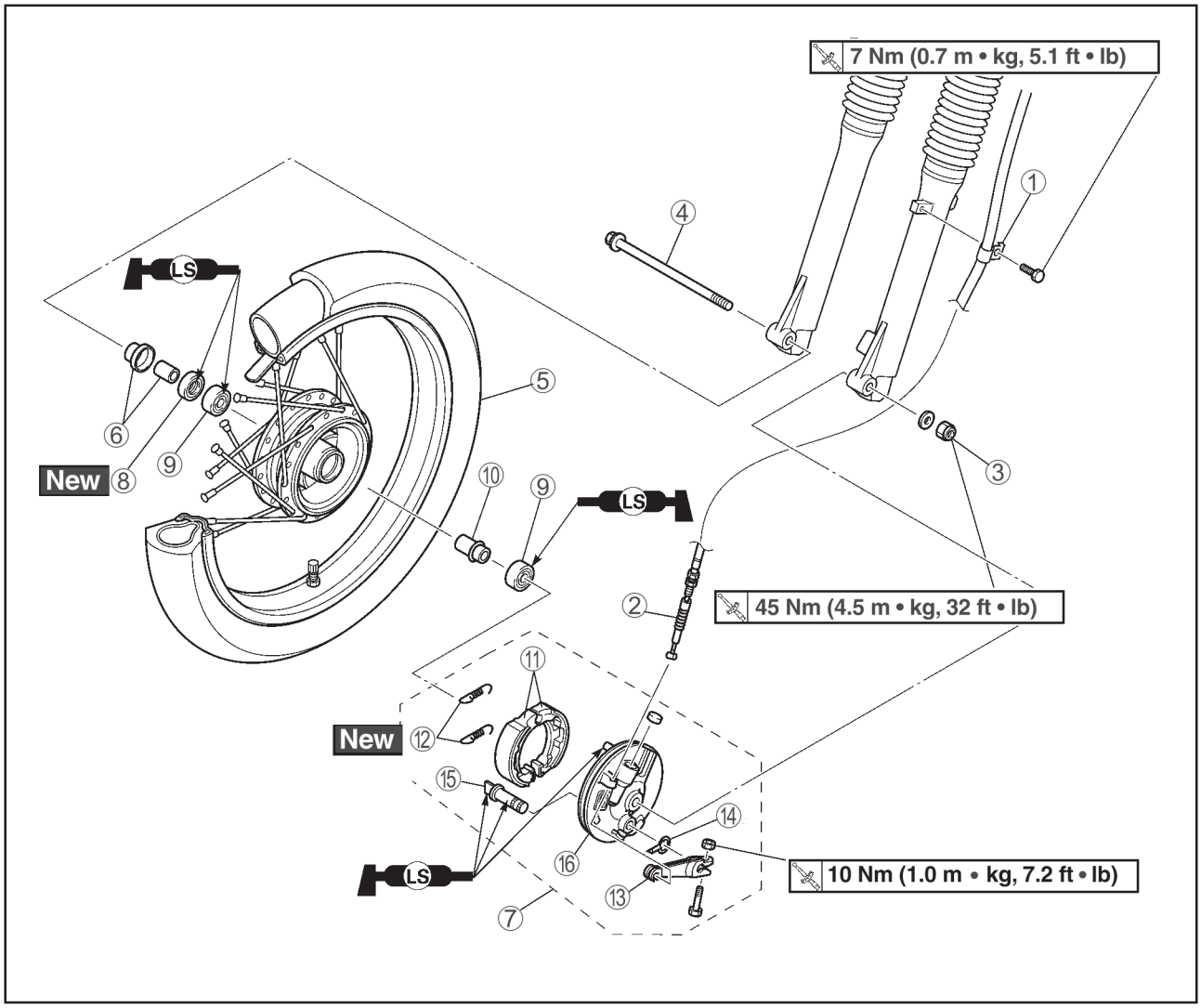


4. Check:
   - Shifter operation
   - Transmission operation
     Unsmooth operation → Repair.

EC500000

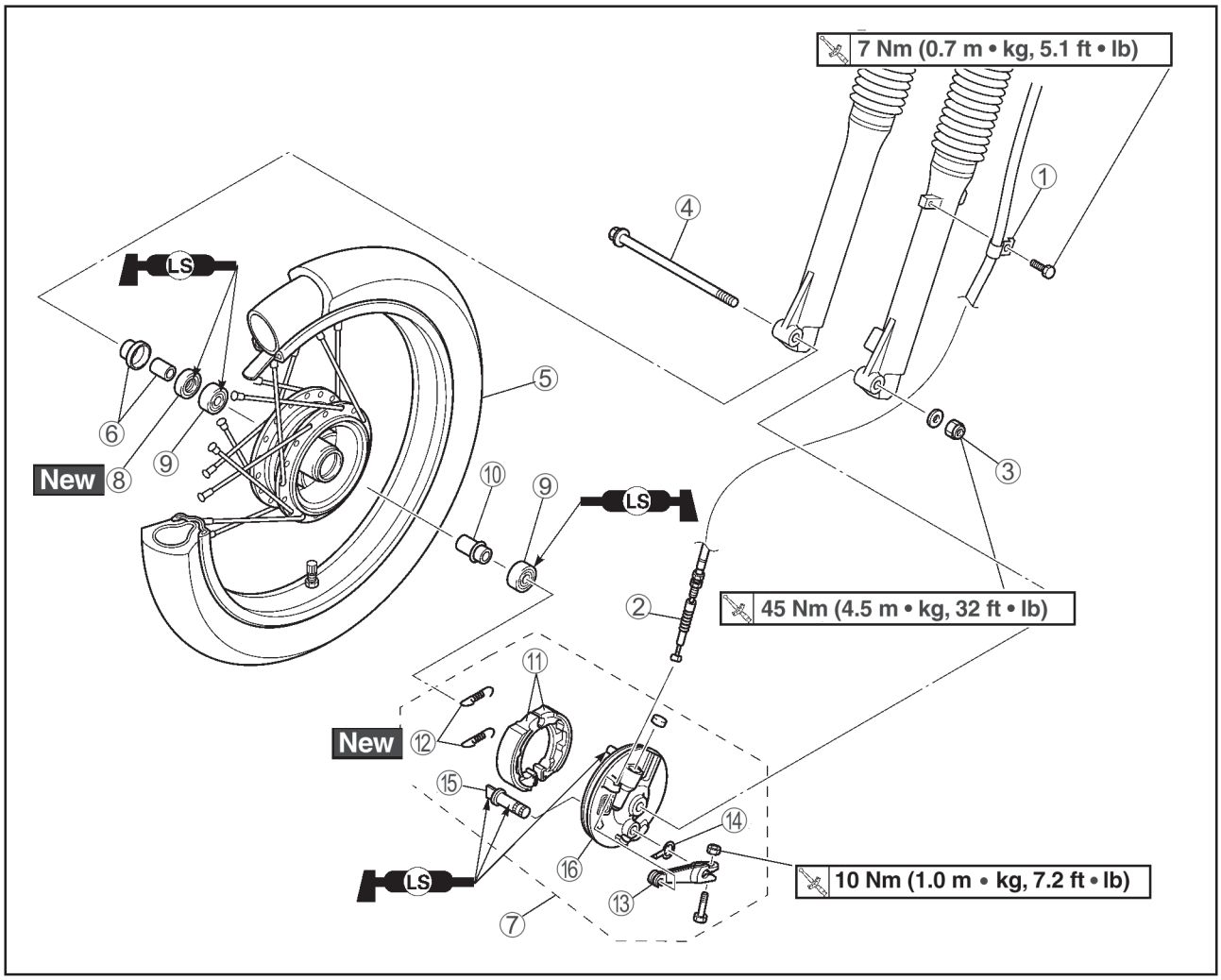
CHASSIS

FRONT WHEEL AND FRONT BRAKE (TT-R125E)

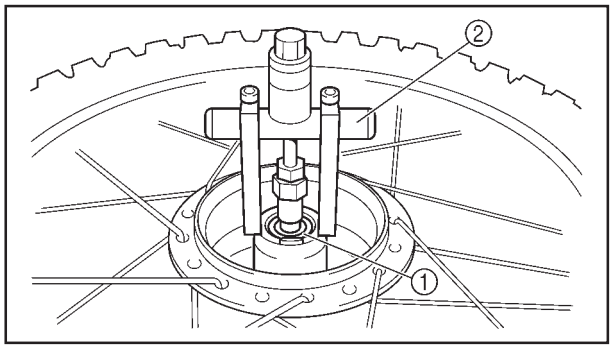


Extent of removal: ① Front wheel removal ② Wheel bearing removal
③ Brake shoe plate assembly removal and disassembly

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**FRONT WHEEL AND DRUM BRAKE** Hold the machine by placing the suitable stand under the engine.		**⚠ WARNING** **Support the machine securely so there is no danger of it falling over.**
① ② ③	1	Brake cable holder	1	
	2	Brake cable	1	Disconnect at the lever side, first.
	3	Axle nut	1	
	4	Wheel axle	1	
	5	Front wheel	1	
	6	Collar set	1	
	7	Brake shoe plate assembly	1	
	8	Oil seal	1	
	9	Wheel bearing	2	Refer to "REMOVAL POINTS".
	10	Spacer	1	



Extent of removal	Order	Part name	Q'ty	Remarks
①	11	Brake shoe	2	
	12	Spring	2	
	13	Brake camshaft lever	1	
	14	Wear indicator plate	1	
	15	Brake camshaft	1	
	16	Brake shoe plate	1	



REMOVAL POINTS

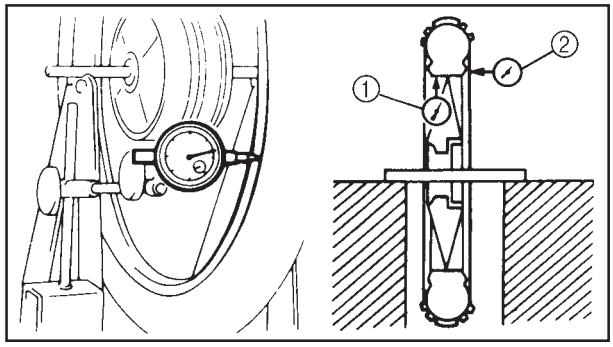
EC513201

Wheel bearing (if necessary)

1. Remove:
   - Bearing ①

TIP

Remove the bearing using a general bearing puller ②.



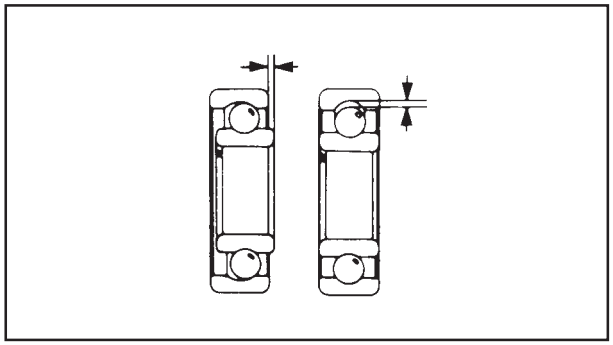
INSPECTION

EC514100

Wheel

1. Measure:
   - Wheel runout
     Out of limit → Repair/replace.

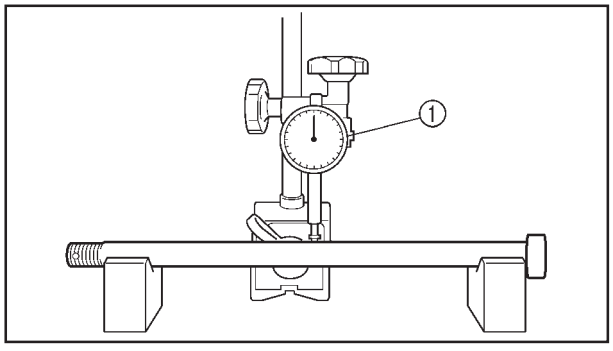
Wheel runout limit:
Radial ①: 2.0 mm (0.08 in)
Lateral ②: 2.0 mm (0.08 in)



2. Inspect:
   - Bearing
     Rotate inner race with a finger.
     Rough spot/seizure → Replace.

TIP

Replace the bearings, oil seal and wheel collar as a set.



EC514200

Wheel axle

1. Measure:
   - Wheel axle bends
     Out of specification → Replace.
     Use the dial gauge ①.

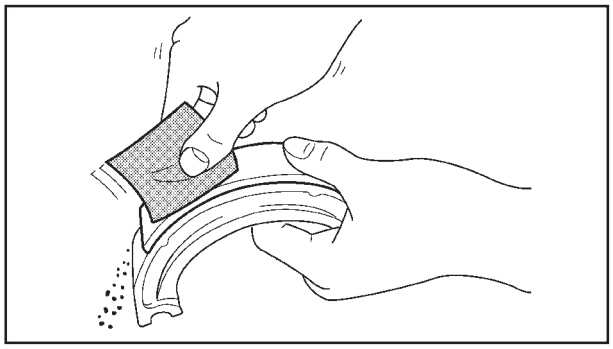
Wheel axle bending limit:
0.5 mm (0.020 in)

TIP

The bending value is shown by one half of the dial gauge reading.

⚠ WARNING

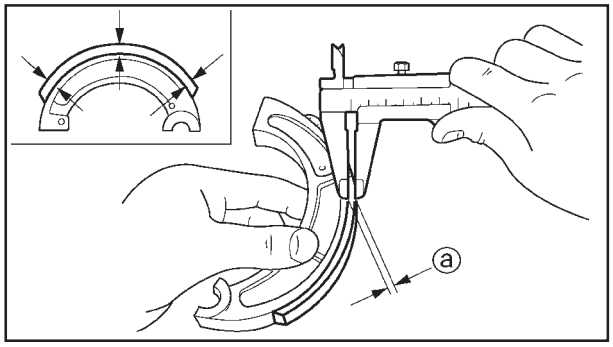
Do not attempt to straighten a bent axle.



Drum brake

1. Inspect:
   - Brake shoe lining surface
     Glazed areas → Polish.
     Use coarse sand paper.

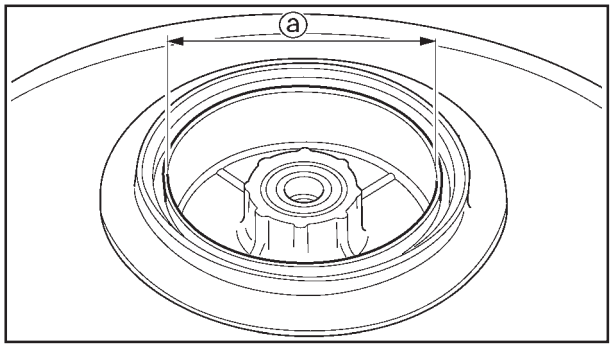
TIP
After polishing, wipe the polished particles with a cloth.



2. Measure:
   - Brake shoe lining thickness ⓐ
     Out of specification → Replace.

Brake shoe lining thickness:	
Standard	**<Limit>**
4.0 mm (0.16 in)	**2.0 mm 0.08 in)**

TIP
Replace the brake shoes and springs as a set if either is worn to the limit.

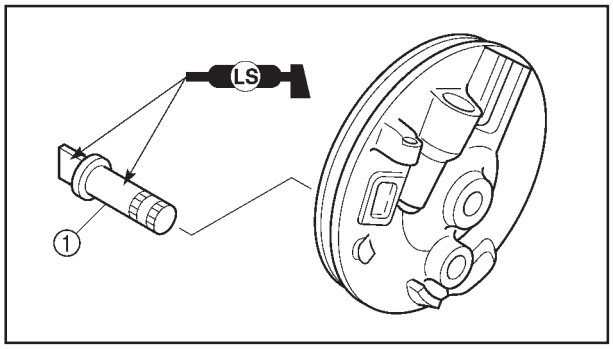


3. Measure:
   - Brake drum inside diameter ⓐ
     Out of specification → Replace.

Brake drum inside diameter:	
Standard	**<Limit>**
110 mm (4.33 in)	**111 mm (4.37 in)**

4. Inspect:
   - Brake drum inner surface
     Oil/scratches → Remove.

Oil	**Use a rag soaked in lacquer thinner or a solvent**
Scratches	**Use a emery cloth (lightly and evenly polishing).**



ASSEMBLY AND INSTALLATION

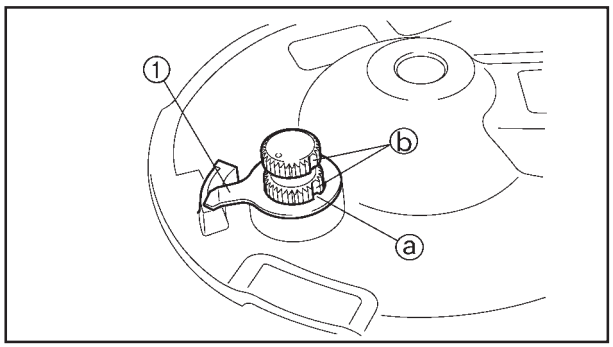
Brake shoe plate assembly

1. Install:
   - Brake camshaft ①

TIP

Apply the lithium soap base grease on the brake camshaft.

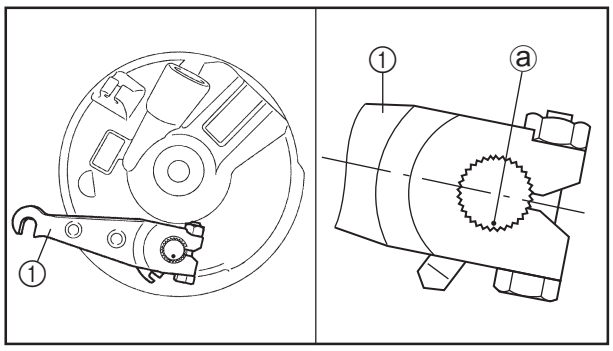
2. Check:
   - Brake camshaft operation
     Unsmooth operation → Repair.



3. Install:
   - Wear indicator plate ①

TIP

When installing the wear indicator plate to the brake camshaft align the projection ⓐ on the wear indicator plate with the slots ⓑ on the brake camshaft.

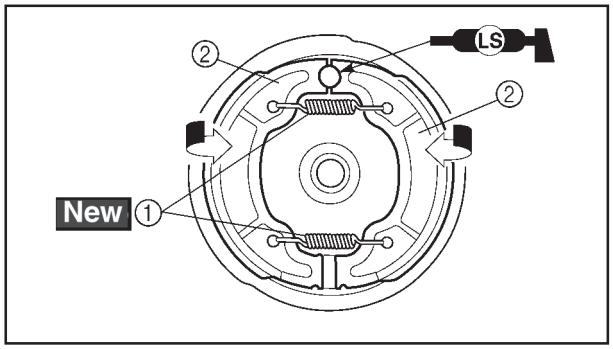


4. Install:
   - Brake camshaft lever ①

	10 Nm (1.0 m · kg, 7.2 ft · lb)

TIP

Install the brake camshaft lever in relation to the punch mark ⓐ as shown.



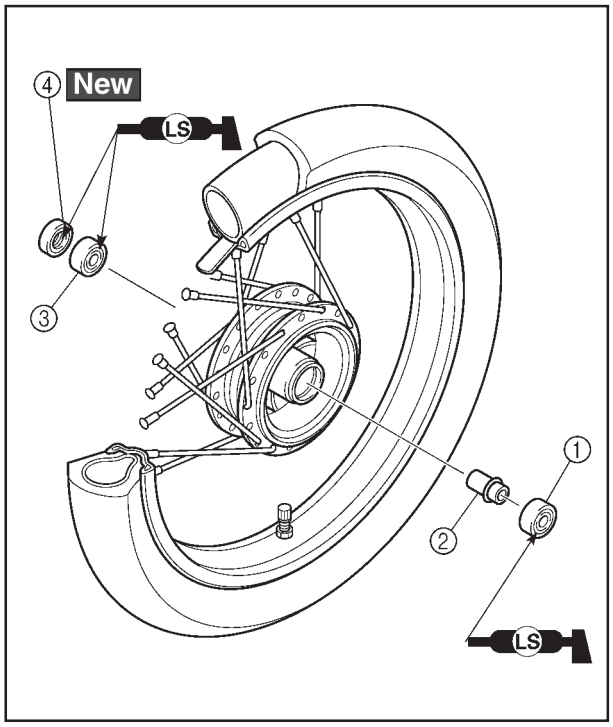
5. Install:
   - Springs ① **New**
   - Brake shoes ②

TIP

Apply the lithium soap base grease on the pivot pin.

⚠ WARNING

Do not apply grease to the brake shoe linings.

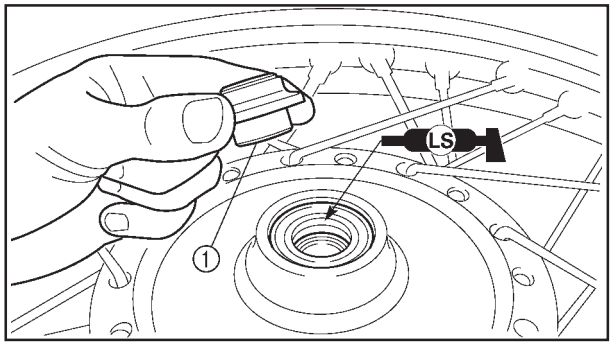


Front wheel

1. Install:
   - Wheel bearing ①
   - Spacer ②
   - Wheel bearing ③
   - Oil seal ④ **New**

TIP

- Apply the lithium soap base grease on the wheel bearing and oil seal lip when installing.
- Install the wheel bearing so that the enclosed side is facing outward.
- Use a socket that matches the outside diameter of the race of the bearing.
- Left side of wheel bearing shall be installed first.
- Install the oil seal with its manufacture's marks or numbers facing outward.



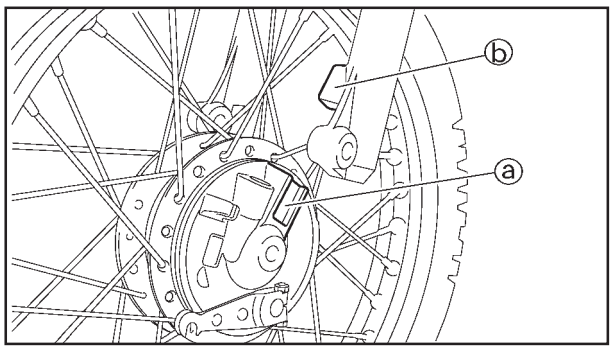
NOTICE

Do not strike the inner race of the bearing. Contact should be made only with the outer race.

2. Install:
   - Brake shoe plate assembly
   - Collar set ①

TIP

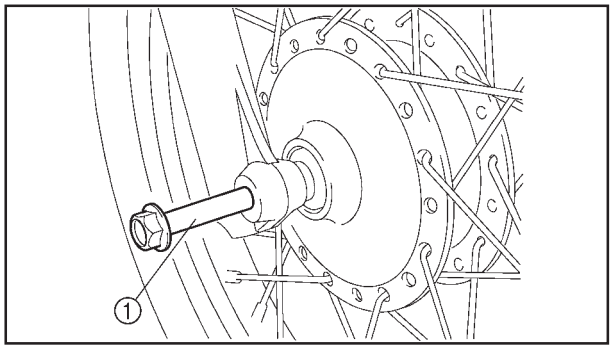
Apply the lithium soap base grease on the oil seal lip.



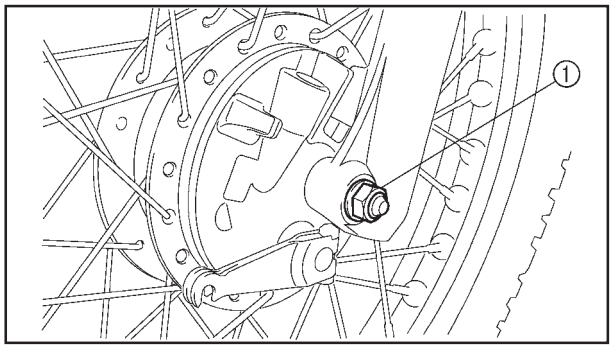
3. Install:
   - Front wheel

TIP

Make sure that the slot ⓐ on the brake shoe plate with the stopper ⓑ on the front fork outer tube.

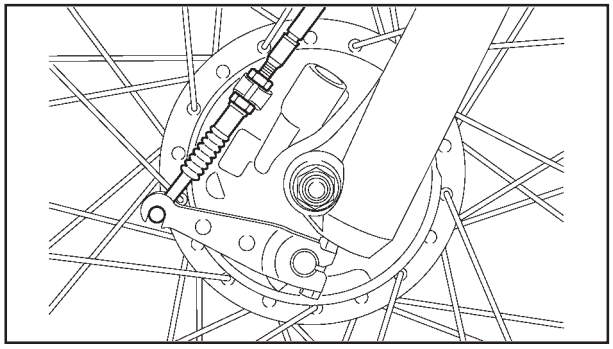


4. Install:
   - Wheel axle ①



5. Install:
   • Axle nut ①

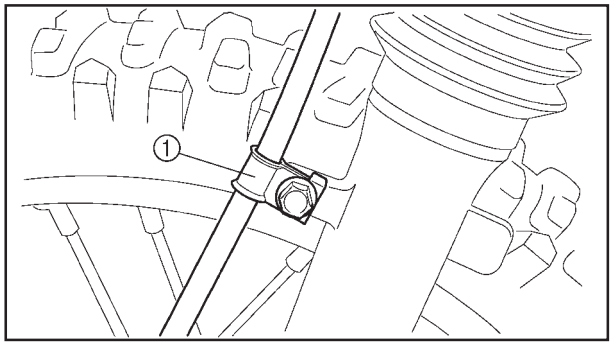
45 Nm (4.5 m · kg, 32 ft · lb)



6. Install:
   • Brake cable

TIP

Brake camshaft lever side of brake cable shall be installed first.

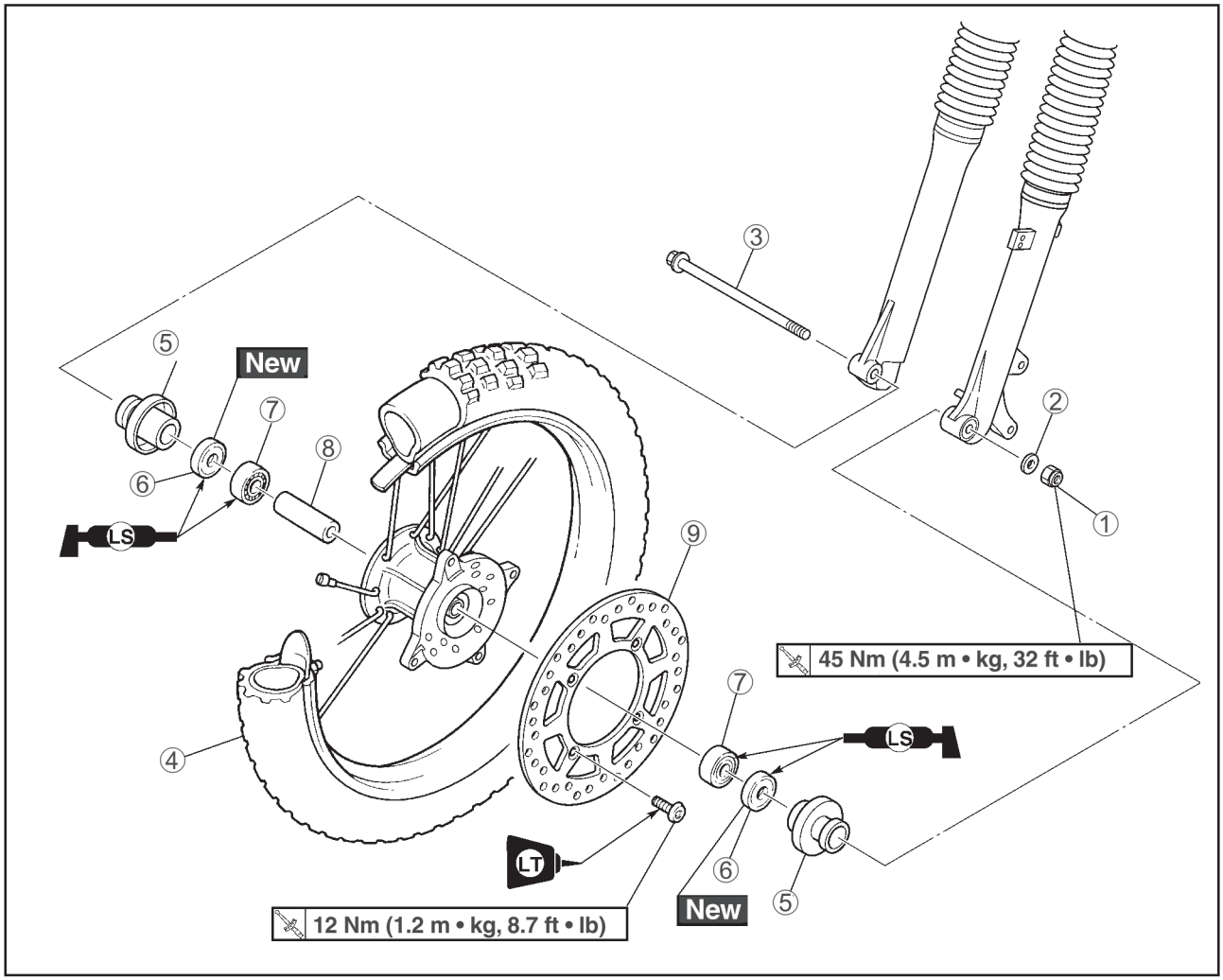


7. Install:
   • Brake cable holder ①

7 Nm (0.7 m · kg, 5.1 ft · lb)

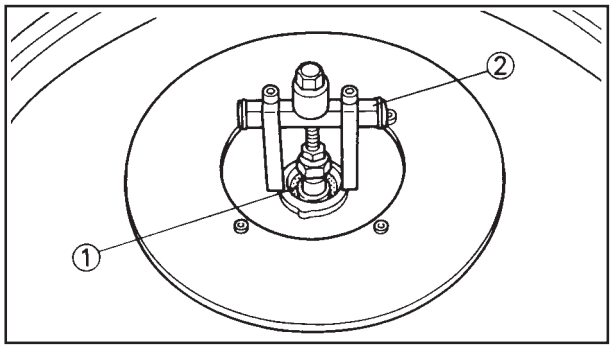
8. Adjust:
   • Brake lever free play
   Refer to “FRONT BRAKE ADJUSTMENT” section in the CHAPTER 3.

FRONT WHEEL (TT-R125LE)



Extent of removal: ① Front wheel removal ② Wheel bearing removal ③ Brake disc removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**FRONT WHEEL REMOVAL** Hold the machine by placing the suitable stand under the engine.		**⚠ WARNING** **Support the machine securely so there is no danger of it falling over.**
① ② ③ ③	1	Axle nut	1	
	2	Washer	1	
	3	Wheel axle	1	
	4	Front wheel	1	
	5	Collar	2	
	6	Oil seal	2	
	7	Wheel bearing	2	Refer to "REMOVAL POINTS".
	8	Spacer	1	
	9	Brake disk	1	



REMOVAL POINTS

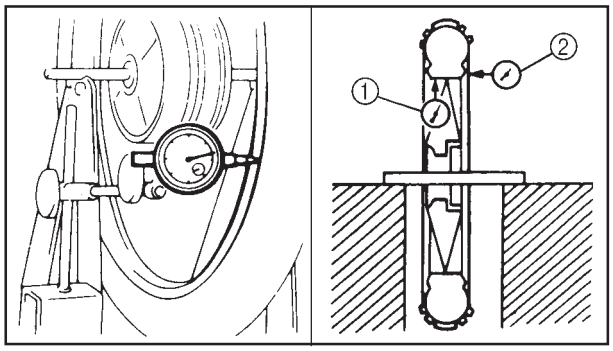
EC513201

Wheel bearing (if necessary)

1. Remove:
   - Bearing ①

TIP

Remove the bearing using a general bearing puller ②.



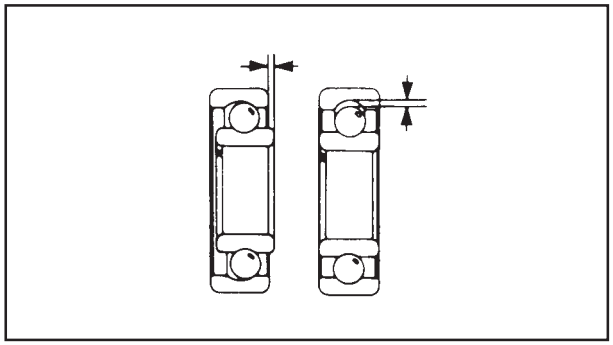
INSPECTION

EC514100

Wheel

1. Measure:
   - Wheel runout
     Out of limit → Repair/replace.

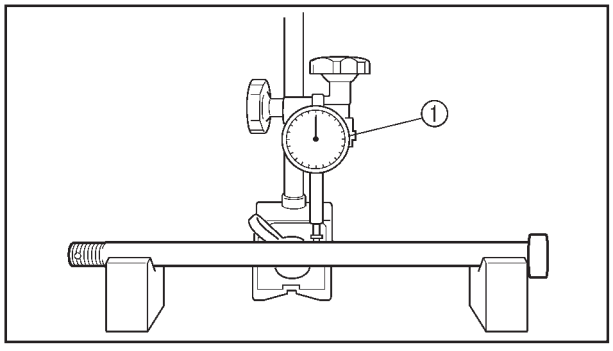
Wheel runout limit:
Radial ①: 2.0 mm (0.08 in)
Lateral ②: 2.0 mm (0.08 in)



2. Inspect:
   - Bearing
     Rotate inner race with a finger.
     Rough spot/seizure → Replace.

TIP

Replace the bearings, oil seal and wheel collar as a set.



EC514200

Wheel axle

1. Measure:
   - Wheel axle bends
     Out of specification → Replace.
     Use the dial gauge ①.

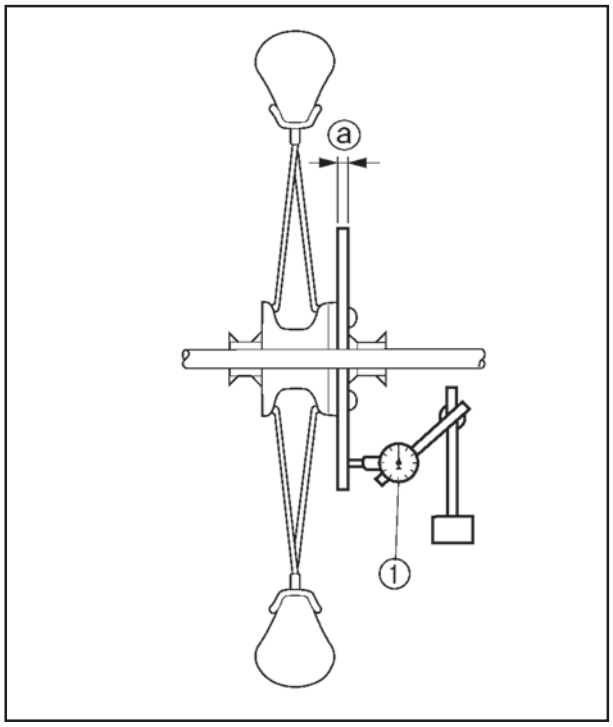
Wheel axle bending limit:
0.5 mm (0.020 in)

TIP

The bending value is shown by one half of the dial gauge reading.

⚠ WARNING

Do not attempt to straighten a bent axle.



Brake disc

1. Measure:
   - Brake disc deflection
     Use the dial gauge ①.
     Out of specification → Inspect wheel runout.
     If wheel runout is in good condition, replace the brake disc.

Disc deflection limit:	**0.15 mm (0.006 in)**

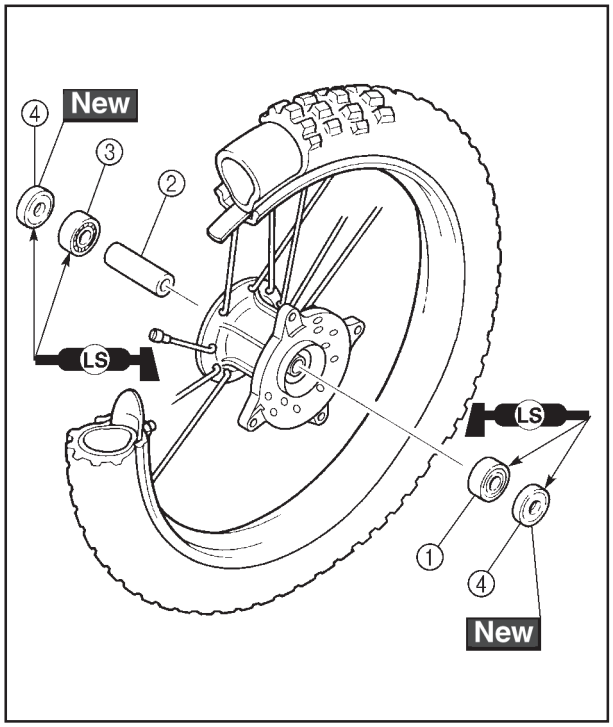
2. Measure:
   - Brake disc thickness ⓐ
     Out of limit → Replace.

Disc wear limit:	
Standard	**<Limit>**
3.0 mm (0.12 in)	**2.5 mm (0.10 in)**

ASSEMBLY AND INSTALLATION

Front wheel

1. Install:
   - Wheel bearing ①
   - Spacer ②
   - Wheel bearing ③
   - Oil seal ④ **New**

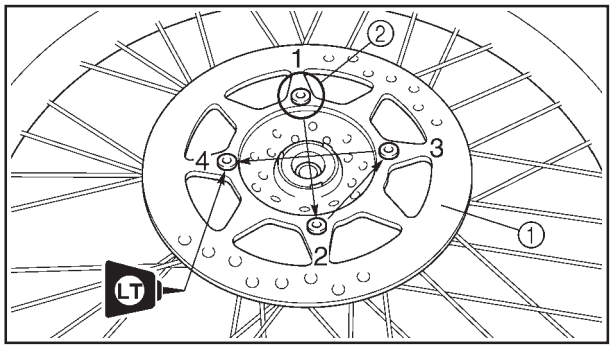


TIP

- Apply the lithium soap base grease on the wheel bearing and oil seal lip when installing.
- Install the wheel bearing so that the enclosed side is facing outward.
- Use a socket that matches the outside diameter of the race of the bearing.
- Left side of wheel bearing shall be installed first.
- Install the oil seal with its manufacture's marks or numbers facing outward.

NOTICE

Do not strike the inner race of the bearing. Contact should be made only with the outer race.

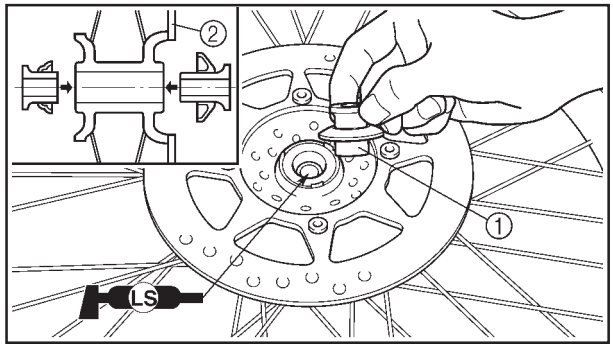


2. Install:
   - Brake disc ①
   - Bolt (brake disc) ②

12 Nm (1.2 m · kg, 8.7 ft · lb)

TIP

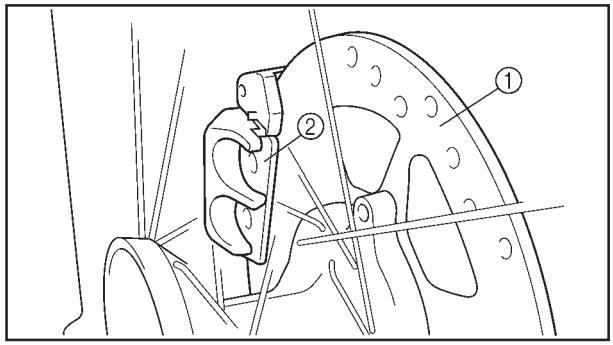
Tighten the bolts in stage, using a crisscross pattern.



3. Install:
   - Collar ①

TIP

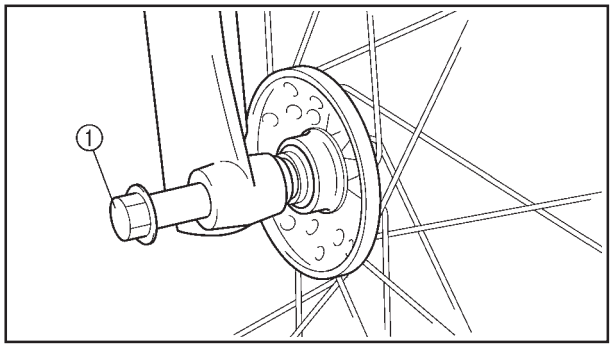
- Apply the lithium soap base grease on the oil seal lips.
- Install the longer collar on the brake disc ② side.



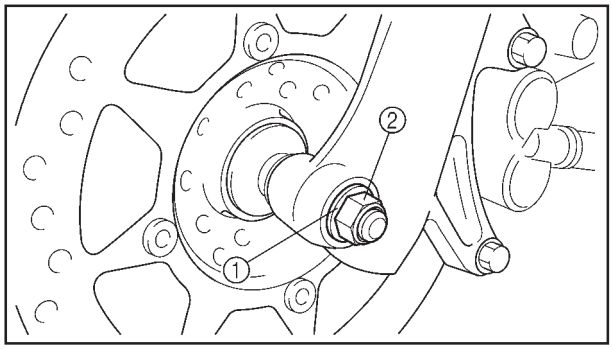
4 Install:
   - Front wheel

TIP

Install the brake disc ① between the brake pads ② correctly.



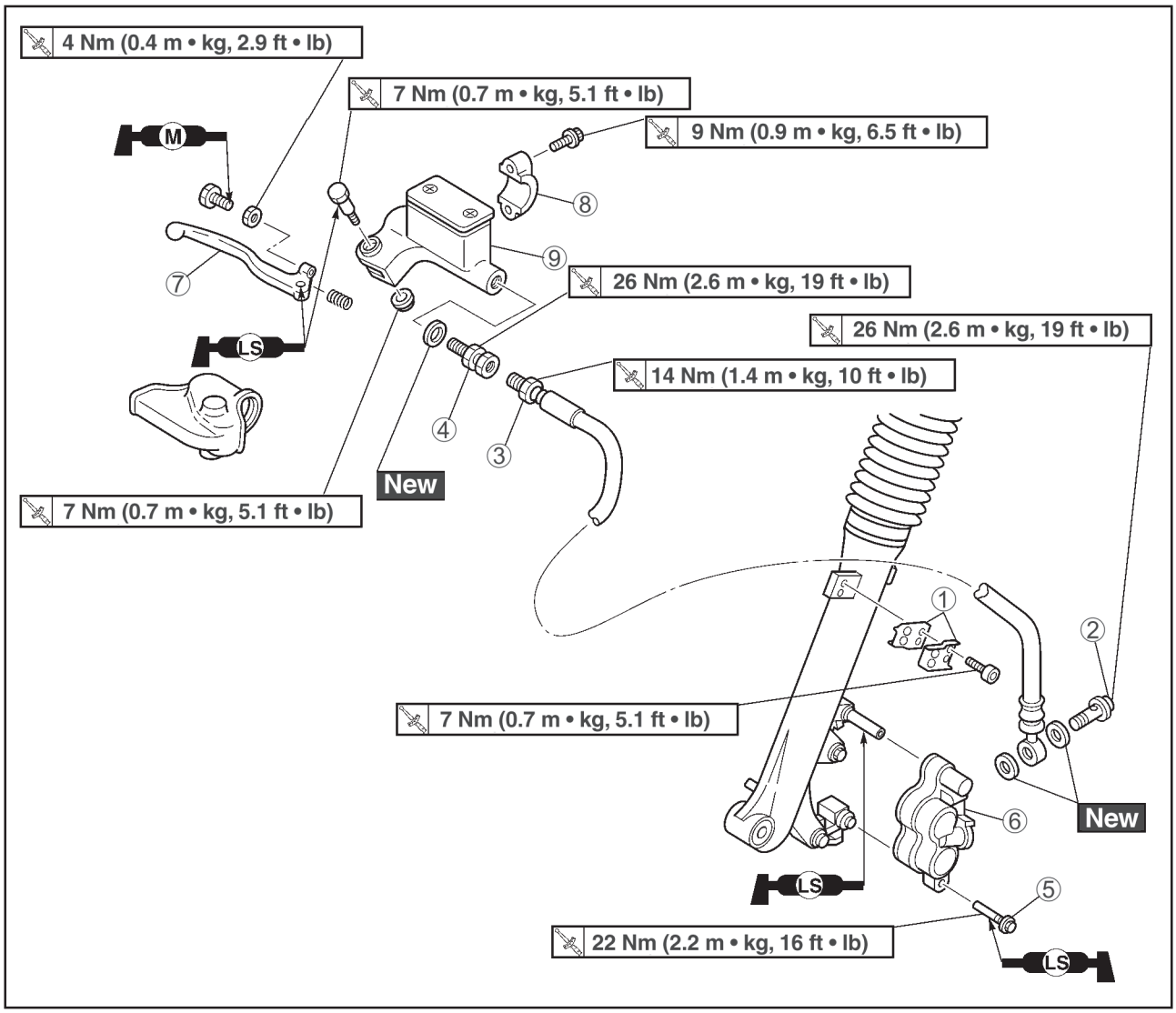
5. Install:
   - Wheel axle ①



6. Install:
   - Washer ①
   - Axle nut ②

45 Nm (4.5 m · kg, 32 ft · lb))

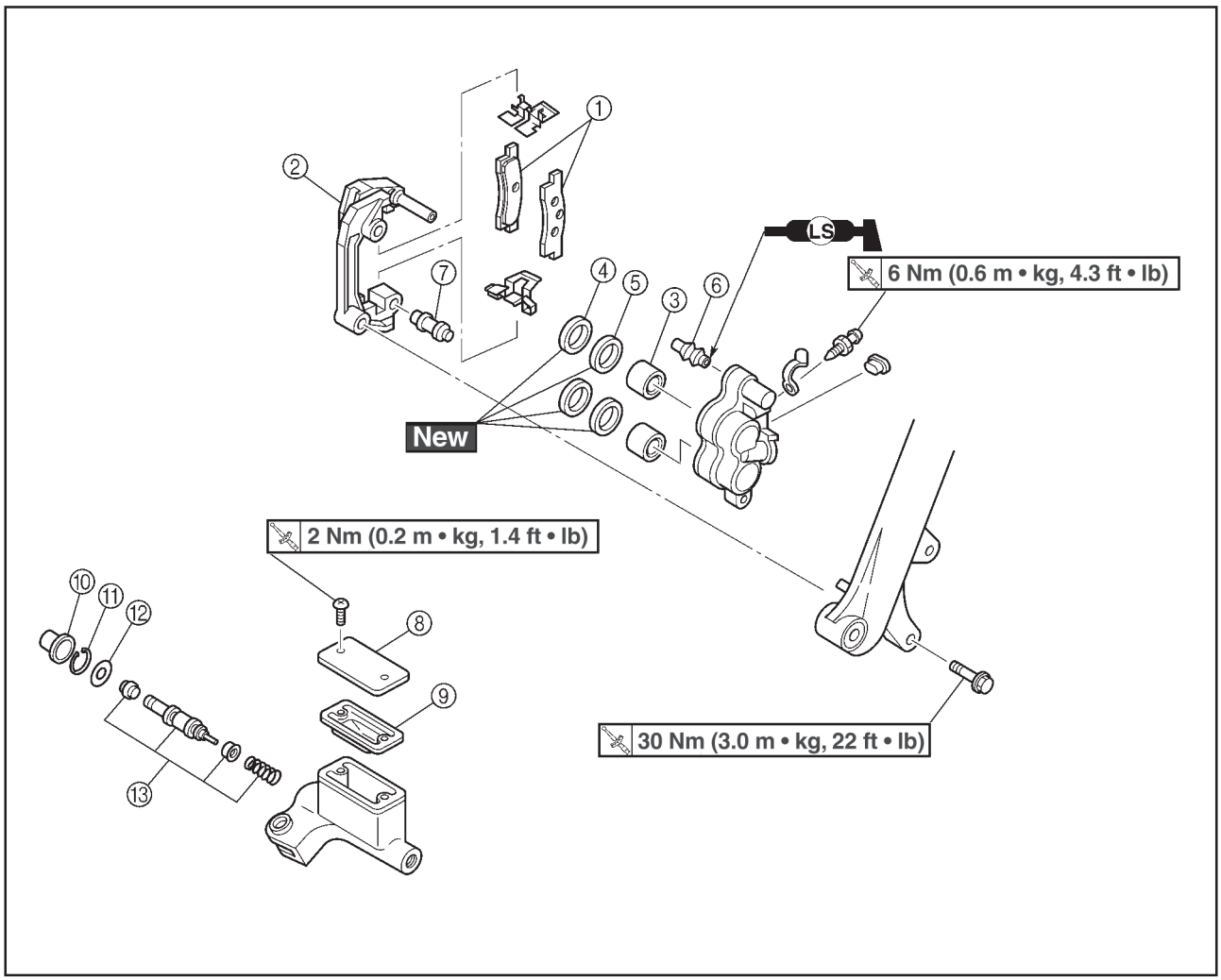
FRONT BRAKE (TT-R125LE)


4 Nm (0.4 m • kg, 2.9 ft • lb)
7 Nm (0.7 m • kg, 5.1 ft • lb)
9 Nm (0.9 m • kg, 6.5 ft • lb)
26 Nm (2.6 m • kg, 19 ft • lb)
26 Nm (2.6 m • kg, 19 ft • lb)
14 Nm (1.4 m • kg, 10 ft • lb)
7 Nm (0.7 m • kg, 5.1 ft • lb)
7 Nm (0.7 m • kg, 5.1 ft • lb)
22 Nm (2.2 m • kg, 16 ft • lb)
M
LS
New
New
LS
LS
1
2
3
4
5
6
7
8
9

Extent of removal: ① Brake hose removal ② Brake caliper removal ③ Brake master cylinder removal

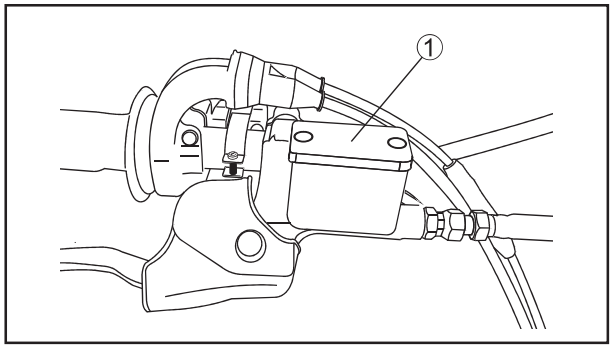
Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**FRONT BRAKE REMOVAL** Hold the machine by placing the suitable stand under the engine. Drain the brake fluid.		**⚠ WARNING** **Support the machine securely so there is no danger of it falling over.** Refer to "REMOVAL POINTS".
①, ②, ③, ②, ③	1	Brake hose holder	2	
	2	Union bolt	1	
	3	Brake hose	1	
	4	Joint	1	
	5	Brake caliper support bolt	1	
	6	Brake caliper	1	Refer to "REMOVAL POINTS".
	7	Brake lever	1	
	8	Brake master cylinder bracket	1	
	9	Brake master cylinder	1	

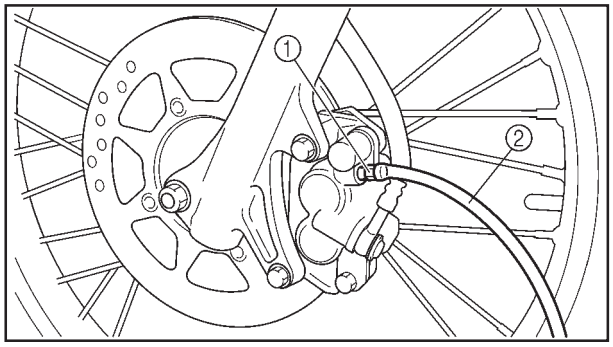
BRAKE CALIPER AND BRAKE MASTER CYLINDER DISASSEMBLY

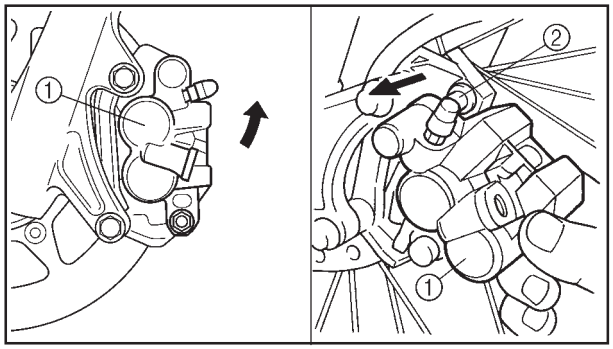


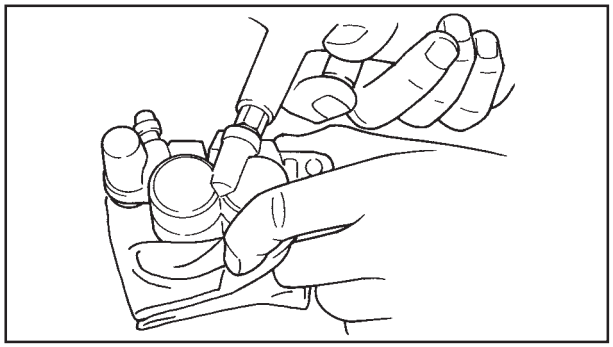
Extent of removal: ① Brake caliper disassembly ② Brake master cylinder disassembly

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**BRAKE CALIPER AND BRAKE MASTER CYLINDER DISASSEMBLY** Hold the machine by placing the suitable stand under the engine.		**WARNING** **Support the machine securely so there is no danger of it falling over.**
①	1	Brake pad	2	
	2	Brake caliper bracket	1	
	3	Brake caliper piston	2	Refer to "REMOVAL POINTS".
	4	Brake caliper dust seal	2	
	5	Brake caliper piston seal	2	
	6	Pin boot	1	
	7	Sleeve boot	1	
②	8	Brake master cylinder cap	1	
	9	Diaphragm	1	
	10	Brake master cylinder boot	1	
	11	Circlip	1	
	12	Washer	1	
	13	Brake master cylinder kit	1	









REMOVAL POINTS

Brake fluid

1. Remove:
   - Brake master cylinder cap ①

TIP

Do not remove the diaphragm.

2. Connect the transparent hose ② to the bleed screw ① and place a suitable container under its end.
3. Loosen the bleed screw and drain the brake fluid while pulling in the lever.

NOTICE

- **Do not reuse the drained brake fluid.**
- **Brake fluid may erode painted surfaces or plastic parts. Always clean up spilled fluid immediately.**

Brake caliper

1. Remove:
   - Brake caliper ①

TIP

Turn the brake caliper counterclockwise and pull out it from the guide pin ② on the brake caliper bracket.

Brake caliper piston

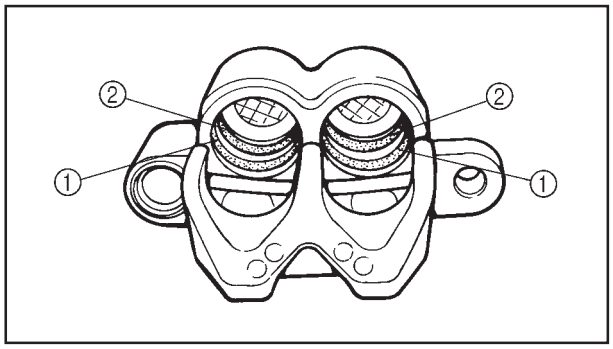
1. Remove:
   - Brake caliper piston
     Use compressed air and proceed carefully.

⚠ WARNING

- **Cover piston with rag and use extreme caution when expelling piston from cylinder.**
- **Never attempt to pry out piston.**

Brake caliper piston removal steps:

- Insert a piece of rag into the brake caliper to lock one brake caliper.
- Carefully force the piston out of the brake caliper cylinder with compressed air.



Brake caliper piston seal kit

1. Remove:
   - Brake caliper dust seal ①
   - Brake caliper piston seal ②

TIP

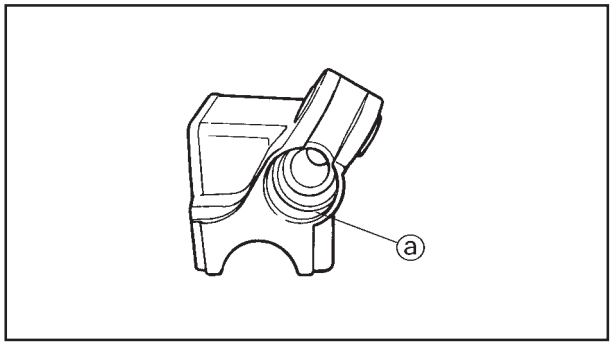
Remove the brake caliper piston seals and brake caliper dust seals by pushing them with a finger.

NOTICE

Never attempt to pry out brake caliper piston seals and brake caliper dust seals.

⚠ WARNING

Replace the brake caliper piston seals and brake caliper dust seals whenever a brake caliper is disassembled.



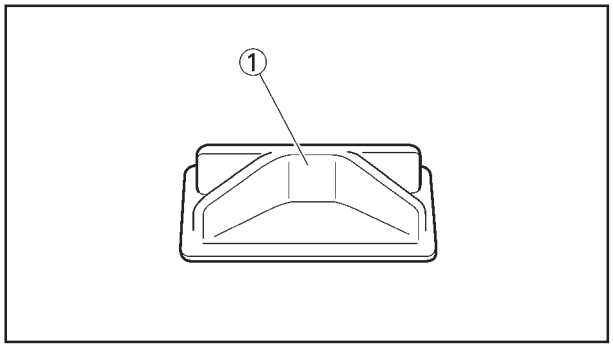
INSPECTION

Brake master cylinder

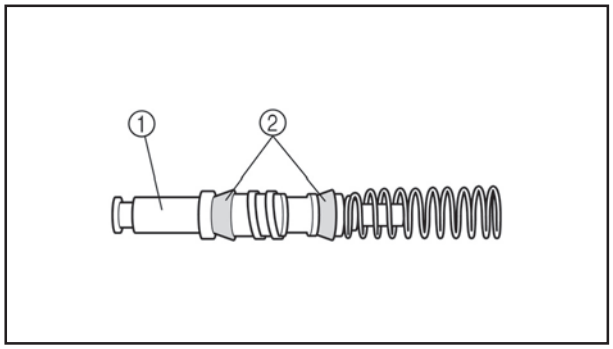
1. Inspect:
   - Brake master cylinder inner surface ⓐ
     Wear/scratches → Replace brake master cylinder assembly.
     Stains → Clean.

⚠ WARNING

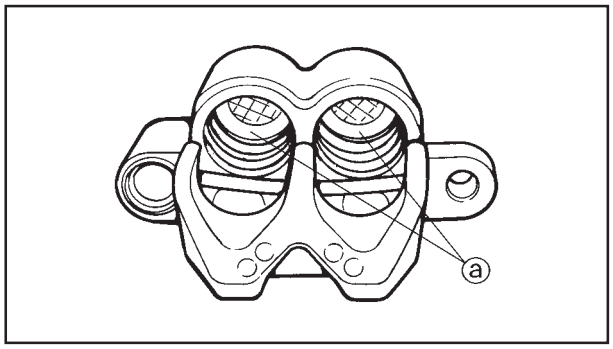
Use only new brake fluid.



2. Inspect:
   - Diaphragm ①
     Crack/damage → Replace.

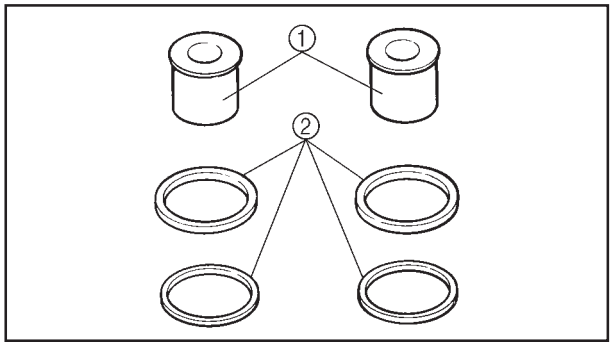


3. Inspect:
   - Brake master cylinder piston ①
   - Brake master cylinder cup ②
     Wear/damage/score marks → Replace brake master cylinder kit.



Brake caliper

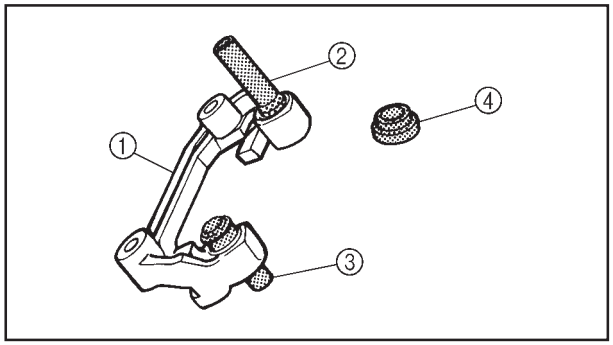
1. Inspect:
   - Brake caliper cylinder inner surface ⓐ
     Wear/score marks → Replace brake caliper assembly.



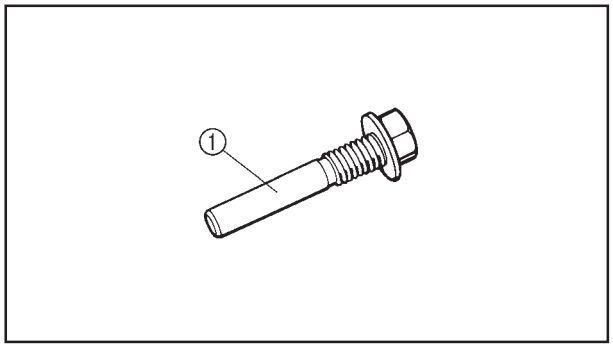
2. Inspect:
   - Brake caliper piston ①
     Wear/score marks → Replace brake caliper piston assembly.

⚠ WARNING

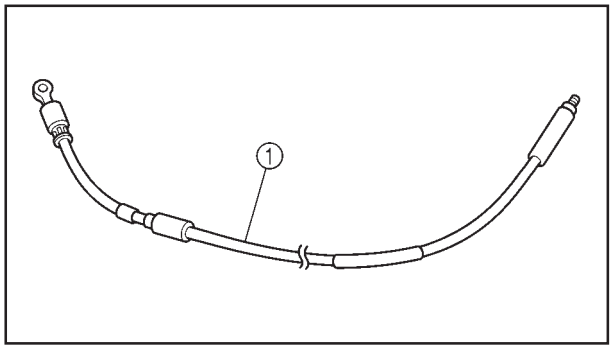
Replace the brake caliper piston seals and brake caliper dust seals ② whenever a brake caliper is disassembled.



3. Inspect:
   - Brake caliper bracket ①
     Cracks/damage → Replace the brake caliper assembly.
   - Guide pin ②
     Rust/damage → Replace the brake caliper assembly.
   - Sleeve boot ③
   - Pin boot ④
     Wear/damage → Replace.



4. Inspect:
   - Brake caliper support bolt ①
     Scorches/rust/damage → Replace.



Brake hose

1. Inspect:
   - Brake hose ①
     Crack/damage → Replace.

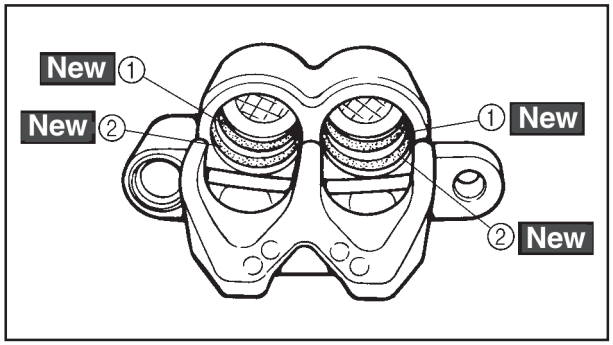
ASSEMBLY AND INSTALLATION

⚠ WARNING

- **All internal parts should be cleaned in new brake fluid only.**
- **Internal parts should be lubricated with brake fluid when installed.**
- **Replace the brake caliper piston seals and brake caliper dust seals whenever a brake caliper is disassembled.**

Brake caliper piston

1. Clean:
   - Brake caliper
   - Brake caliper piston seal
   - Brake caliper dust seal
   - Brake caliper piston
     Clean them with brake fluid.



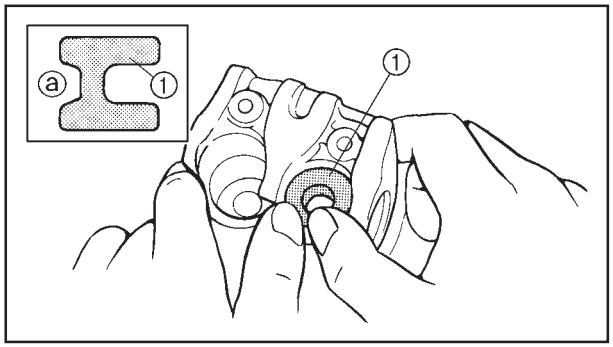
2. Install:
   - Brake caliper piston seal ① New
   - Brake caliper dust seal ② New

⚠ WARNING

Always use new brake caliper piston seals and brake caliper dust seals.

TIP

Fit the brake caliper piston seals and brake caliper dust seals onto the slot on brake caliper correctly.



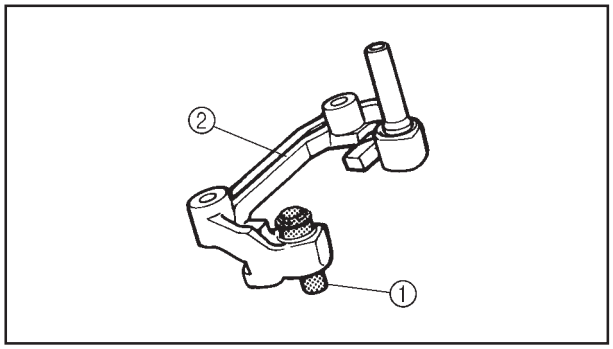
3. Install:
   - Brake caliper piston ①

TIP

Apply the brake fluid on the brake caliper piston wall.

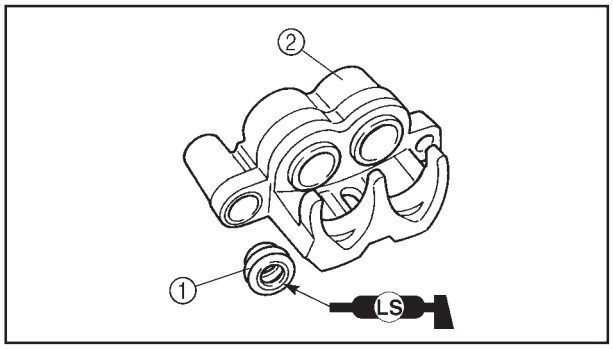
NOTICE

- **Install the brake caliper piston with its shallow depressed side ⓐ facing the brake caliper.**
- **Never force to insert.**



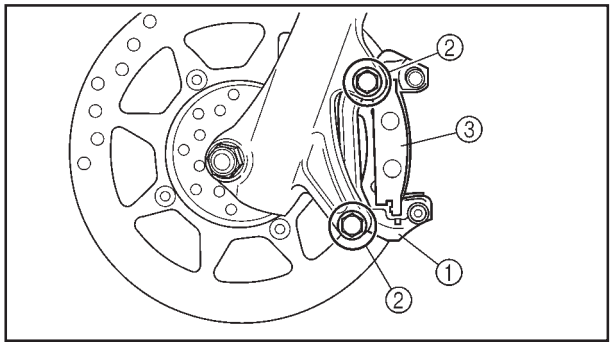
Brake caliper

1. Install:
   - Sleeve boot ①.
     On brake caliper bracket ②.



2. Install:
   - Pin boot ①
     On brake caliper ②.

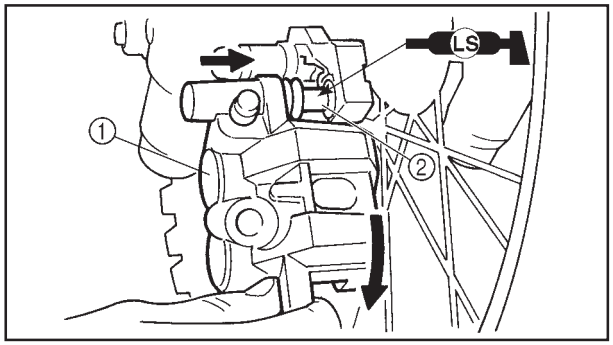
TIP
Apply the lithium soap base grease on the pin boot inner surface.



3. Install:
   - Brake caliper bracket ①
   - Bolt (brake caliper bracket) ②

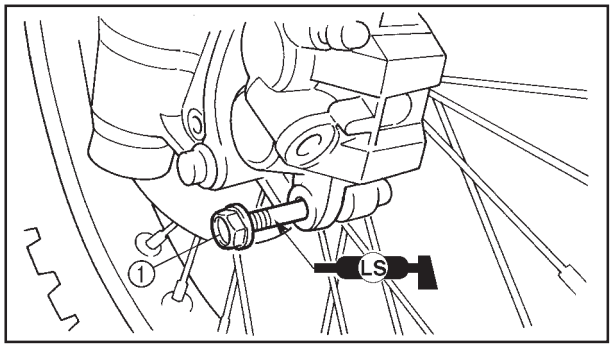
30 Nm (3.0 m · kg, 22 ft · lb)

   - Brake pad ③



4. Install:
   - Brake caliper ①

TIP
- Apply the lithium soap base grease on the guide pin ②.
- Install the brake caliper into the guide pin and turn it clockwise.



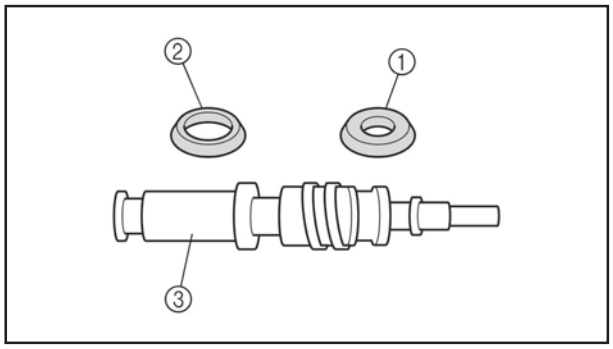
5. Install:
   - Brake caliper support bolt ①

22 Nm (2.2 m · kg, 16 ft · lb)

TIP
Apply the lithium soap base grease on the brake caliper support bolt.

Brake master cylinder kit

1. Clean:
   - Brake master cylinder
   - Brake master cylinder kit
     Clean them with brake fluid.



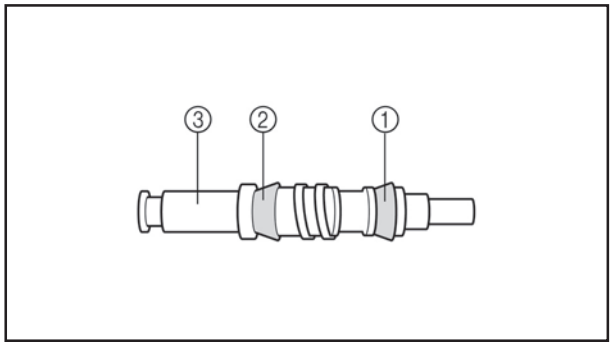
2. Install:
   - Brake master cylinder cup (primary) ①
   - Brake master cylinder cup (secondary) ②
     On brake master cylinder piston ③.

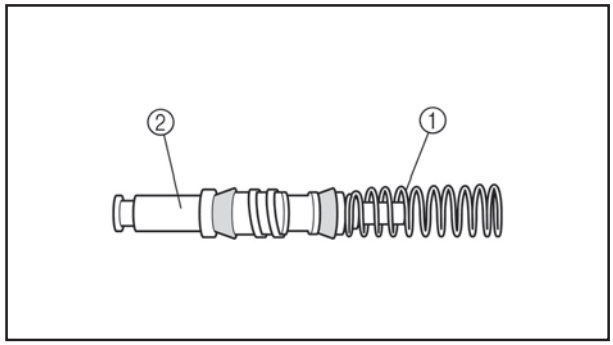
TIP

Apply the brake fluid on the brake master cylinder cup.

⚠ WARNING

After installing, cylinder cup should be installed as shown direction. Wrong installation cause improper brake performance.

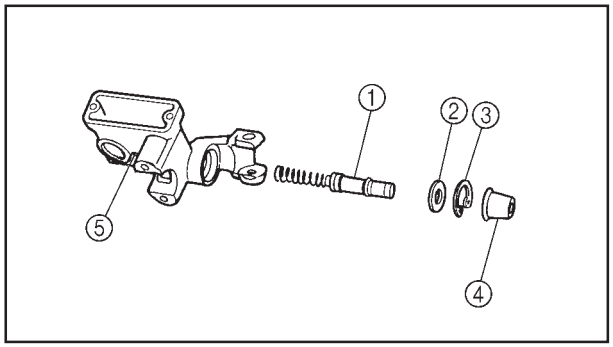




3. Install:
   - Spring ①
     On brake master cylinder piston ②.

TIP

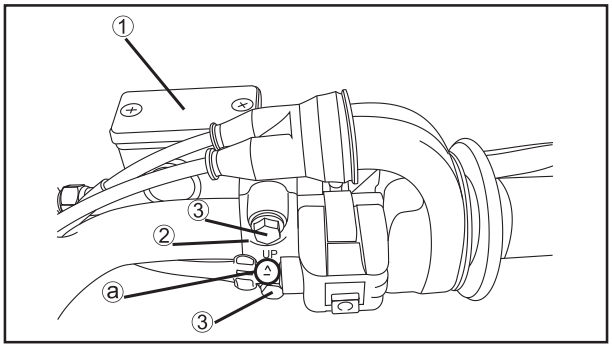
Install the spring at the smaller diameter side.

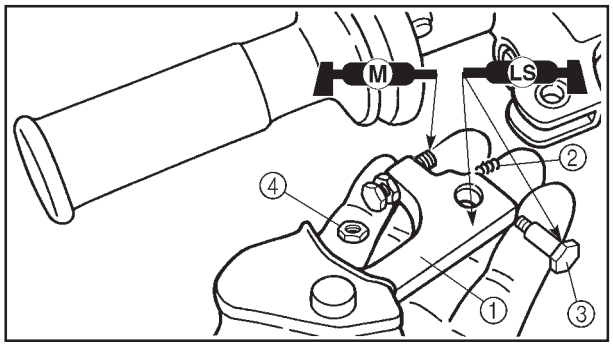


4. Install:
   - Brake master cylinder kit ①
   - Washer ②
   - Circlip ③
   - Brake master cylinder boot ④
     On brake master cylinder ⑤

TIP

- Apply the brake fluid on the brake master cylinder kit.
- When installing the circlip, use a long nose circlip pliers.





Brake master cylinder

1. Install:
   - Brake master cylinder ①
   - Brake master cylinder bracket ②
   - Bolt (brake master cylinder bracket) ③

9 Nm (0.9 m · kg, 6.5 ft · lb)

TIP

- Install the brake master cylinder bracket so that the arrow mark ⓐ face upward.
- First tighten the bolts on the upper side of the brake master cylinder bracket, and then tighten the bolts on the lower side.

2. Install:
   - Brake lever ①
   - Spring ②
   - Bolt (brake lever) ③

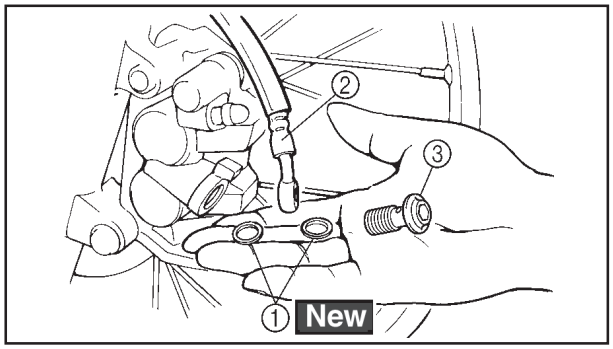
7 Nm (0.7 m · kg, 5.1 ft · lb)

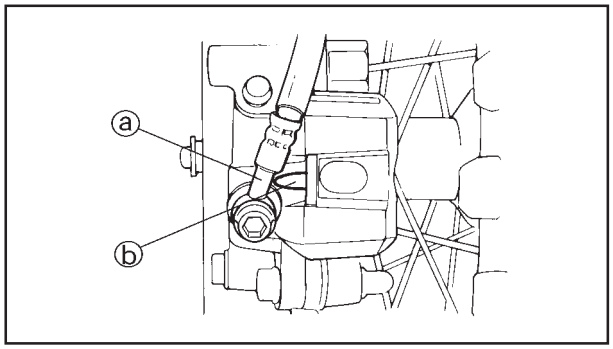
   - Nut (brake lever) ④

7 Nm (0.7 m · kg, 5.1 ft · lb)

TIP

- Apply the lithium soap base grease on the bolt and brake lever sliding surface.
- Apply the molybdenum disulfide grease on the tip of the adjuster bolt.





Brake hose

1. Install:
   - Copper washer ① **New**
   - Brake hose ②
   - Union bolt ③

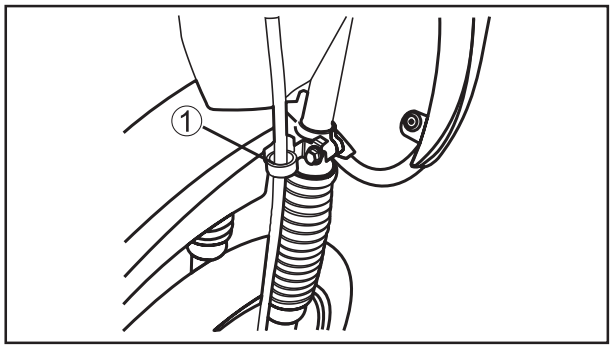
26 Nm (2.6 m · kg, 19 ft · lb)

⚠ WARNING

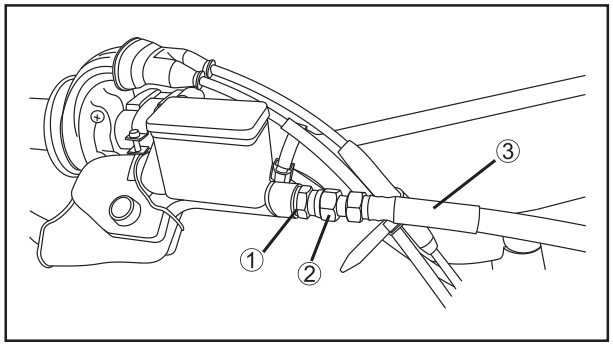
Always use new copper washers.

NOTICE

Install the brake hose so that its pipe portion ⓐ directs as show and lightly touches the projection ⓑ on the brake caliper.



2. Pass the brake hose through the cable guide ①.



3. Install:
   - Copper washer ① **New**
   - Joint ②

     26 Nm (2.6 m · kg, 19 ft · lb)
   - Brake hose ③

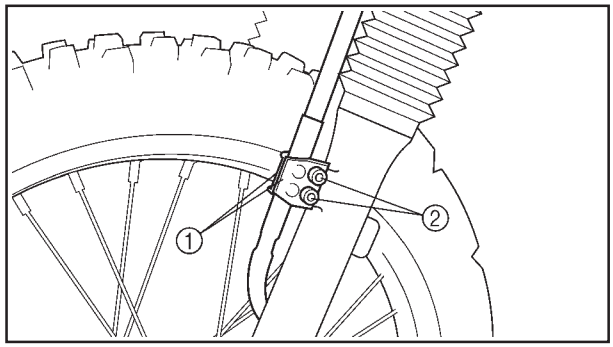
     14 Nm (1.4 m · kg, 10 ft · lb)

⚠ WARNING

Always use a new copper washer.

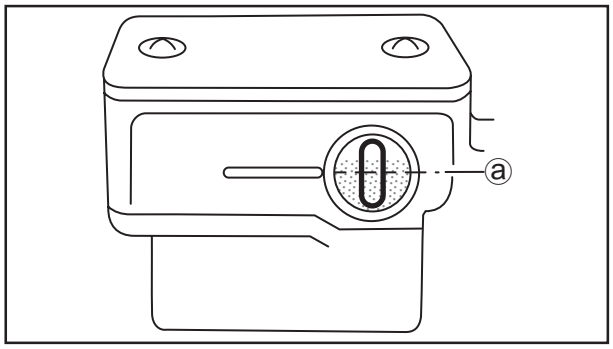
TIP

When turning the joint over the brake hose, hold the brake hose so that it may not be twisted.



4. Install:
   - Brake hose holder ①
   - Bolt (brake hose holder) ②

     7 Nm (0.7 m · kg, 5.1 ft · lb)



Brake fluid

1. Fill:
   - Brake fluid
     Until the fluid level reaches "LOWER" level line ⓐ.

Recommended brake fluid:
DOT #4

⚠ WARNING

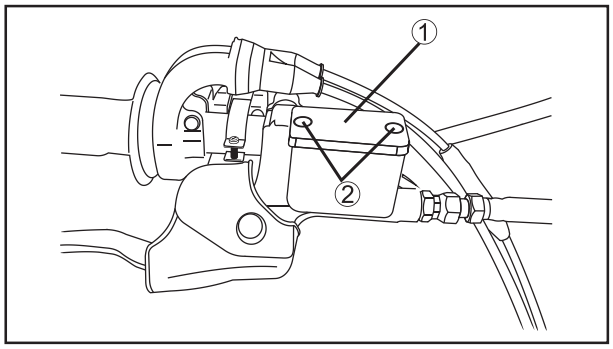
- **Use only the designated quality brake fluid:**
  otherwise, the rubber seals may deteriorate, causing leakage and poor brake performance.
- **Refill with the same type of brake fluid;**
  mixing fluids may result in a harmful chemical reaction and lead to poor performance.
- **Be careful that water does not enter the brake master cylinder when refilling. Water will significantly lower the boiling point of the fluid and may result in vapor lock.**

NOTICE

Brake fluid may erode painted surfaces or plastic parts. Always clean up spilled fluid immediately.

2. Air bleed:
   - Brake system
     Refer to "BRAKE SYSTEM AIR BLEEDING" section in the CHAPTER 3.

3. Inspect:
   - Brake fluid level
     Fluid at lower level → Fill up.
     Refer to "BRAKE FLUID LEVEL INSPECTION" section in the CHAPTER 3.



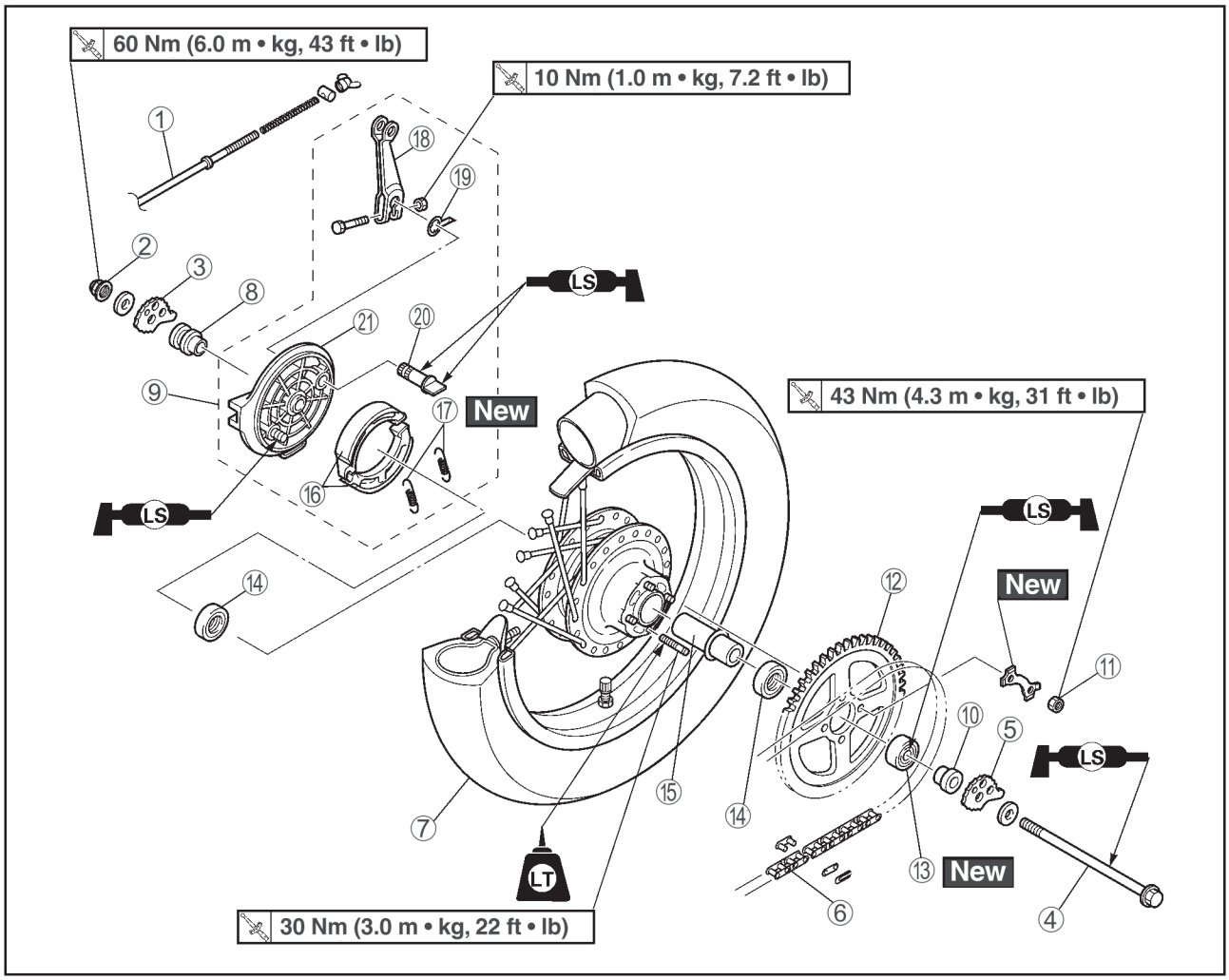
4. Install:
   - Diaphragm
   - Brake master cylinder cap ①
   - Screw (brake master cylinder cap) ②

	2 Nm (0.2 m · kg, 1.4 ft · lb)

NOTICE

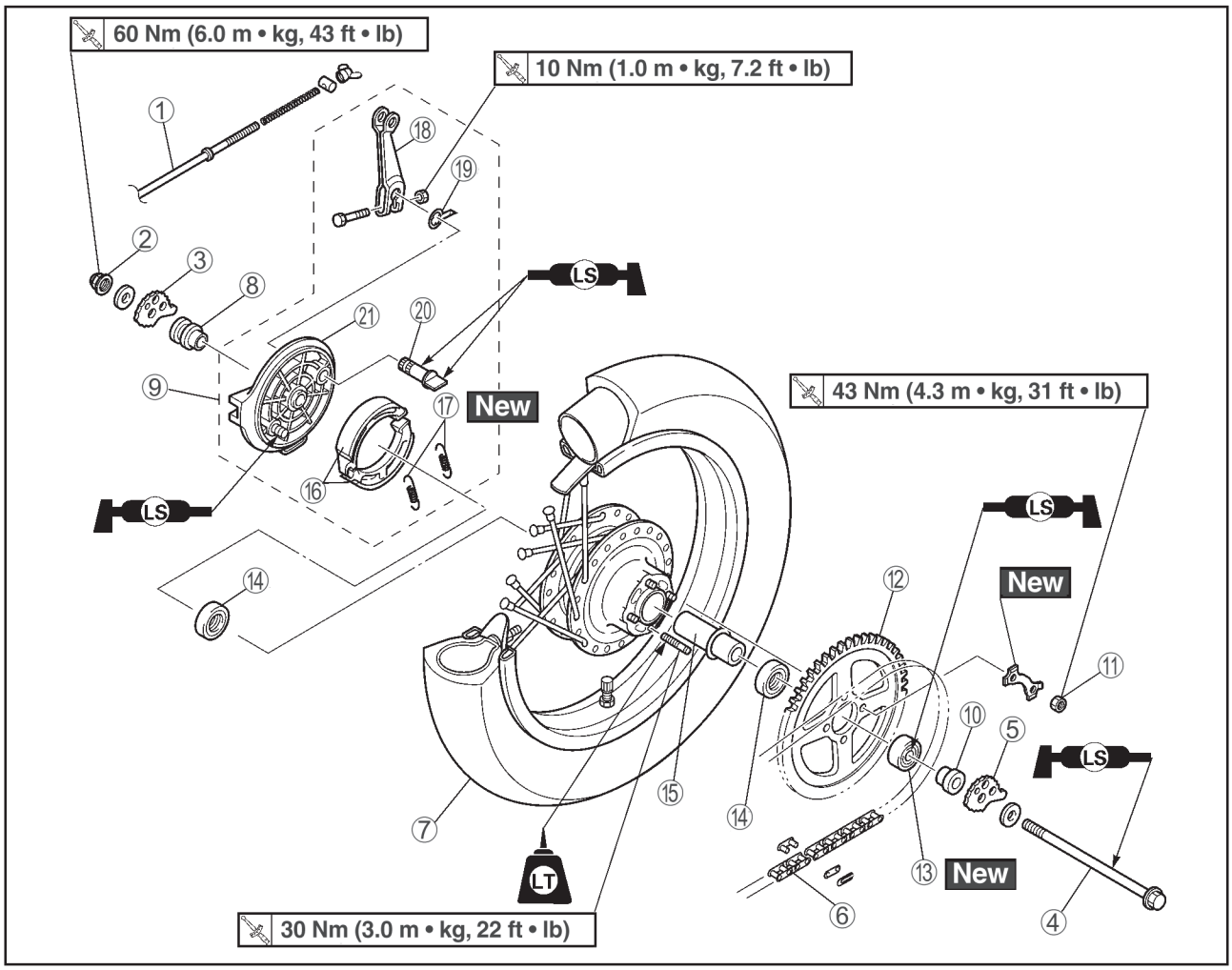
After installation, while pulling in the lever, check whether there is any brake fluid leaking where the union bolts are installed respectively at the brake master cylinder and brake caliper.

REAR WHEEL AND REAR BRAKE

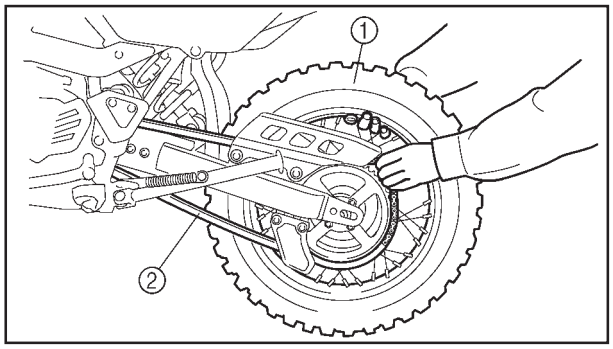


Extent of removal: ① Rear wheel removal ② Wheel bearing removal
③ Brake shoe plate assembly removal and disassembly

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**REAR WHEEL AND DRUM BRAKE** Hold the machine by placing the suitable stand under the engine.		**⚠ WARNING** **Support the machine securely so there is no danger of it falling over.**
① ② ③	1	Brake rod	1	
	2	Axle nut	1	
	3	Drive chain puller (right)	1	
	4	Wheel axle	1	
	5	Drive chain puller (left)	1	
	6	Drive chain	1	
	7	Rear wheel	1	Refer to "REMOVAL POINTS".
	8	Collar (right)	1	
	9	Brake shoe plate assembly	1	
	10	Collar (left)	1	



Extent of removal	Order	Part name	Q'ty	Remarks
②	11	Nut (wheel sprocket)	4	
	12	Wheel sprocket	1	
	13	Oil seal	1	
	14	Wheel bearing	2	Refer to "REMOVAL POINTS".
	15	Spacer	1	
③	16	Brake shoe	2	
	17	Spring	2	
	18	Brake camshaft lever	1	
	19	Wear indicator plate	1	
	20	Brake camshaft	1	
	21	Brake shoe plate	1	



REMOVAL POINTS

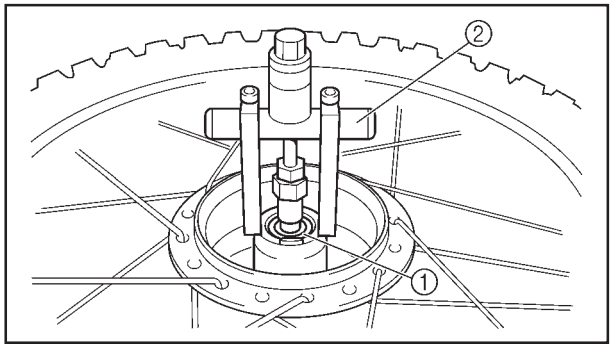
EC523101

Rear wheel

1. Remove:
   - Wheel ①

TIP

Push the wheel forward and remove the drive chain ②.



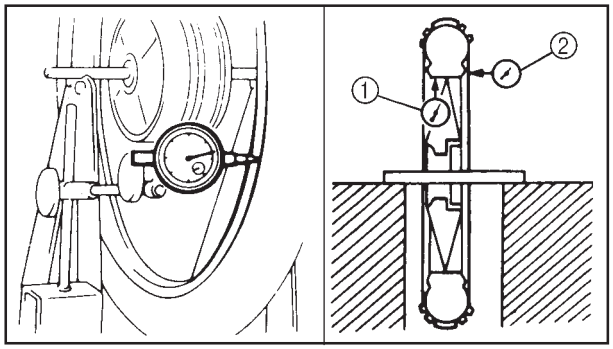
EC513201

Wheel bearing (if necessary)

1. Remove:
   - Bearing ①

TIP

Remove the bearing using a general bearing puller②.



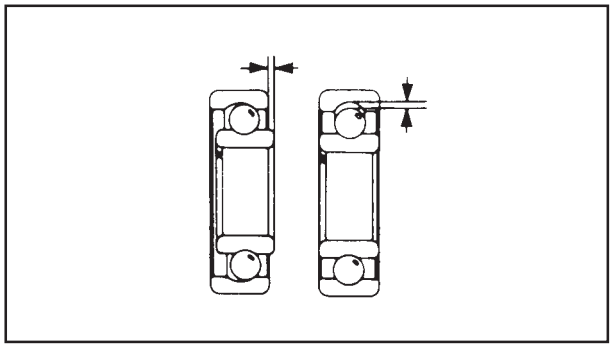
INSPECTION

EC514100

Wheel

1. Measure:
   - Wheel runout
     Out of limit → Repair/replace.

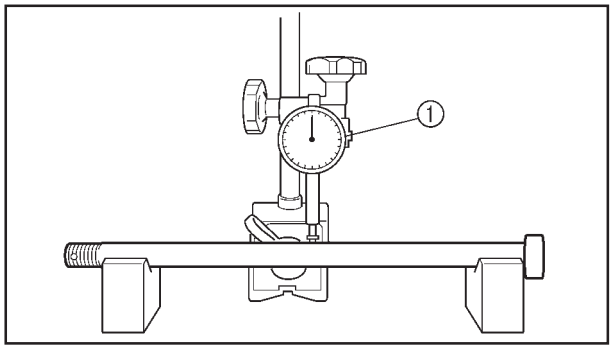
Wheel runout limit:
Radial ①: 2.0 mm (0.08 in)
Lateral ②: 2.0 mm (0.08 in)



2. Inspect:
   - Bearing
     Rotate inner race with a finger.
     Rough spot/seizure → Replace.

TIP

Replace the bearings, oil seal and wheel collar (wheel sprocket side) as a set.



EC514200

Wheel axle

1. Measure:
   - Wheel axle bends
     Out of specification → Replace.
     Use the dial gauge ①.

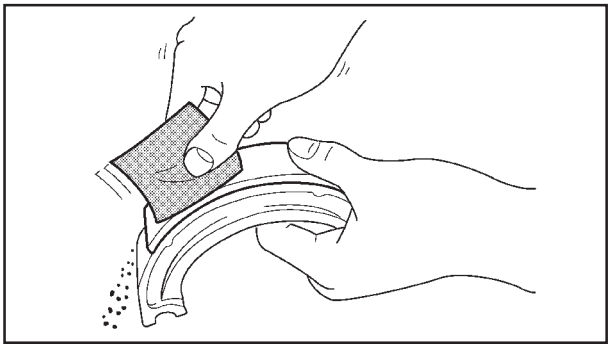
Wheel axle bending limit:
0.5 mm (0.020 in)

TIP

The bending value is shown by one half of the dial gauge reading.

⚠ WARNING

Do not attempt to straighten a bent axle.

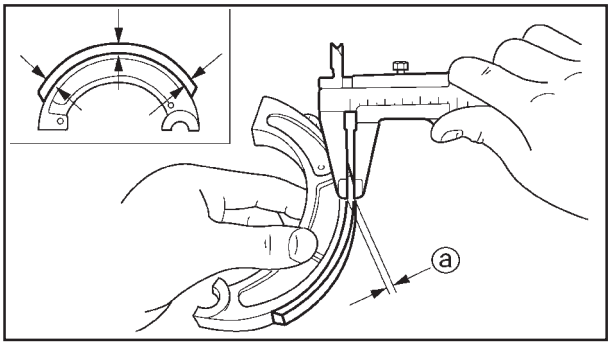


Drum brake

1 Inspect:
- Brake shoe lining surface
  Glazed areas → Polish.
  Use coarse sand paper.

TIP

After polishing, wipe the polished particles with a cloth.

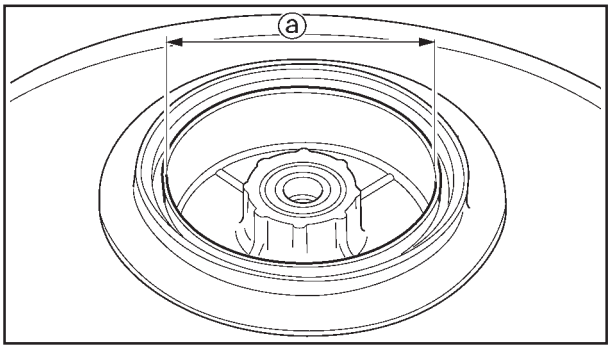


2. Measure:
- Brake shoe lining thickness ⓐ
  Out of specification → Replace.

Brake shoe lining thickness:	
Standard	**<Limit>**
4.0 mm (0.16 in)	**2.0 mm (0.08 in)**

TIP

Replace the brake shoes and springs as a set if either is worn to the limit.

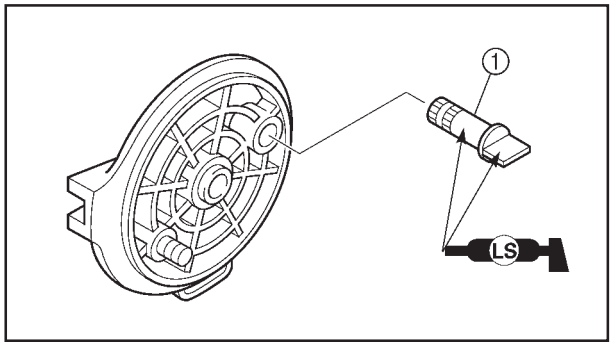


3. Measure:
- Brake drum inside diameter ⓐ
  Out of specification → Replace.

Brake drum inside diameter:	
Standard	**<Limit>**
110 mm (4.33 in)	**111 mm (4.37 in)**

4. Inspect:
   - Brake drum inner surface.
     Oil/scratches → Remove.

Oil	**Use a rag soaked in lacquer thinner or a solvent.**
Scratches	**Use a emery cloth (lightly and evenly polishing).**



ASSEMBLY AND INSTALLATION

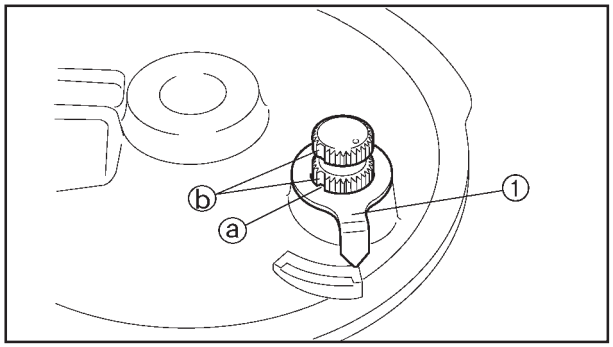
Brake shoe plate assembly

1. Install:
   - Brake camshaft ①

TIP

Apply the lithium soap base grease on the brake camshaft.

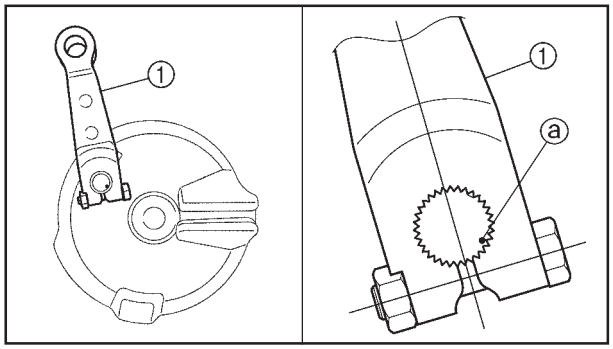
2. Check:
   - Brake camshaft operation
     Unsmooth operation → Repair.



3. Install:
   - Wear indicator plate ①

TIP

When installing the wear indicator plate to the brake camshaft align the projection ⓐ on the wear indicator plate with the slots ⓑ on the brake camshaft.

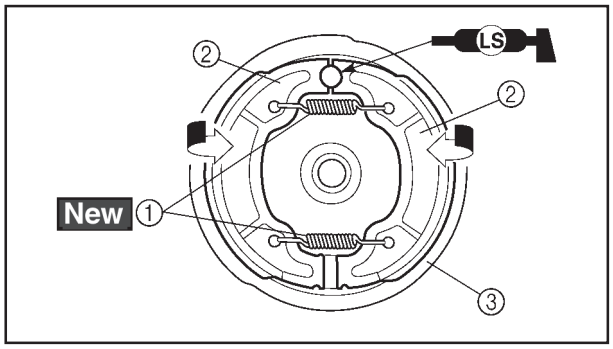


4. Install:
   - Brake camshaft lever ①

10 Nm (1.0 m · kg, 7.2 ft · lb)

TIP

Install the brake camshaft lever in relation to the punch mark ⓐ as shown.



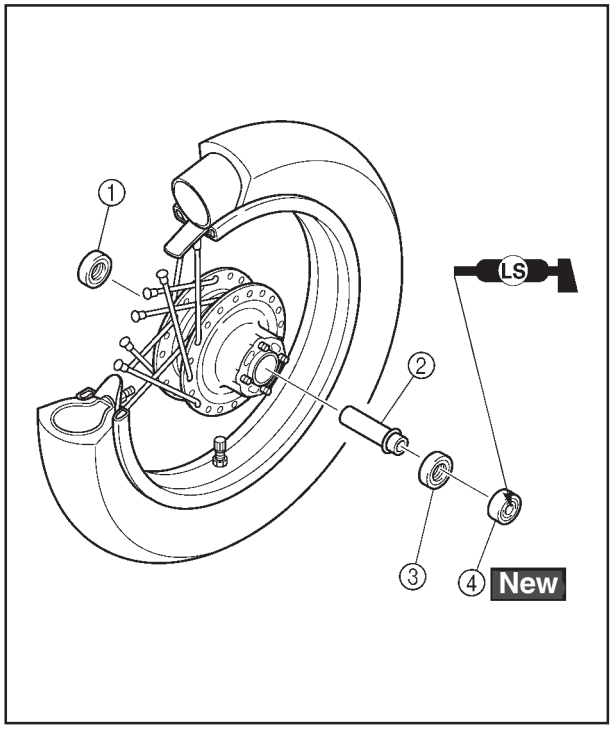
5. Install:
   - Springs ① **New**
   - Brake shoes ②
     On brake shoe plate ③

TIP

- Apply the lithium soap base grease on the pivot pin.
- When installing the springs and brake shoes, take care not to damage the springs.
- When replacing the brake shoes, replace the springs as a set.

⚠ WARNING

Do not apply grease to the brake shoe linings.



Rear wheel

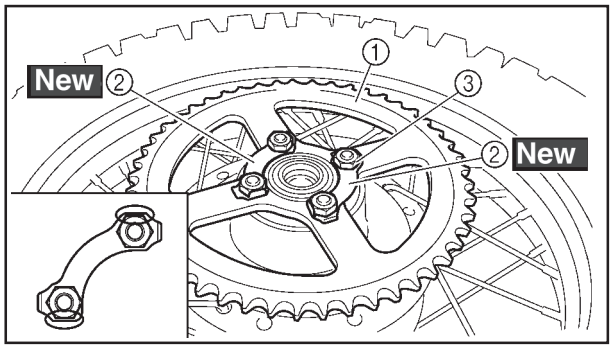
1. Install:
   - Wheel bearing ①
   - Spacer ②
   - Wheel bearing ③
   - Oil seal ④ **New**

TIP

- Apply the lithium soap base grease on the oil seal lip when installing.
- Install the bearing with seal facing outward.
- Use a socket that matches the outside diameter of the race of the bearing.
- Right side of bearing shall be installed first.
- Install the oil seal with its manufacture's marks or numbers facing outward.

NOTICE

Do not strike the inner race of the bearing. Contact should be made only with the outer race.

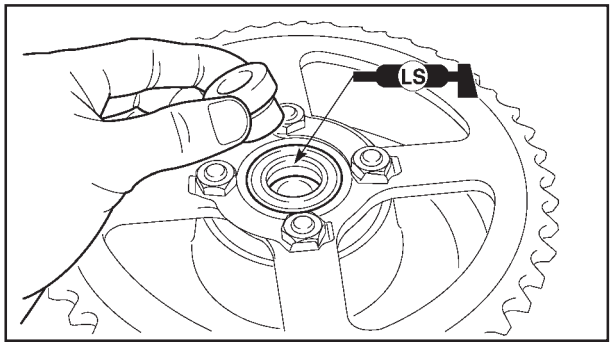


2. Install:
   - Wheel sprocket ①
   - Lock washers ② **New**
   - Nut (wheel sprocket) ③

43 Nm (4.3 m · kg, 31 ft · lb)

TIP

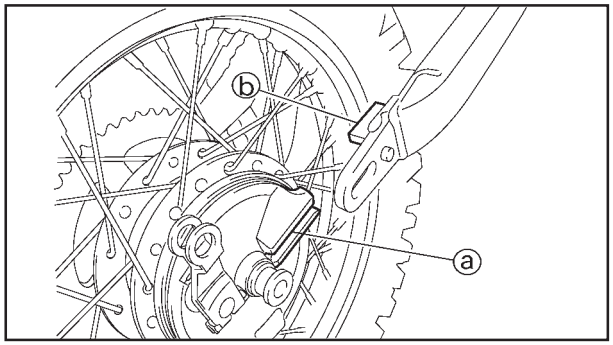
- Tighten the nuts in stage, using a crisscross pattern.
- Bend the lock washer tab.



3. Install:
   - Collar (left)
   - Brake shoe plate assembly
   - Collar (right)

TIP

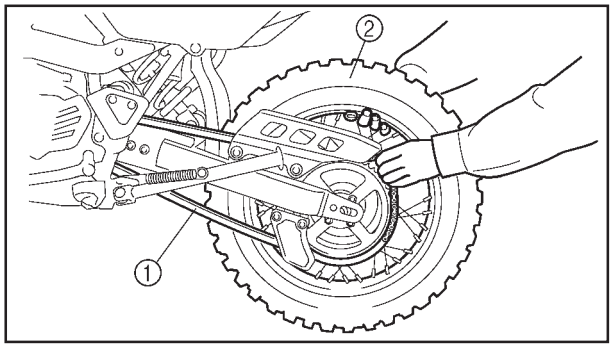
Apply the lithium soap base grease on the oil seal lip.



4. Install:
   - Rear wheel

TIP

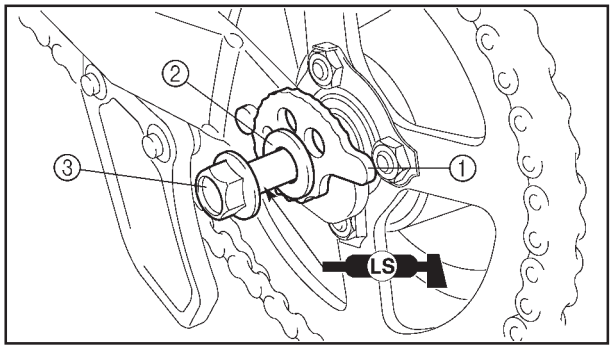
Make sure that the slot ⓐ on the brake shoe plate with the stopper ⓑ on the swingarm.



5. Install:
   - Drive chain ①

TIP

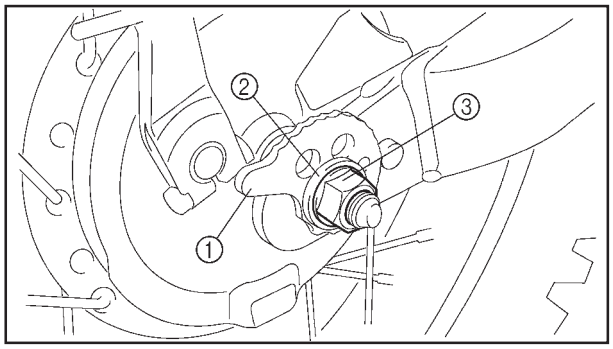
Push the wheel ① forward and install the drive chain.



6. Install:
   - Drive chain puller (left) ①
   - Plain washer ②
   - Wheel axle ③

TIP

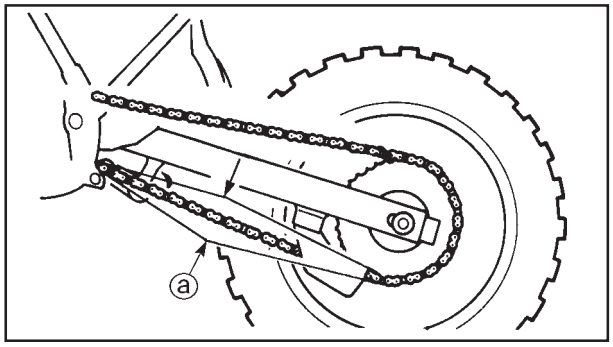
- Apply the lithium soap base grease on the wheel axle.
- Insert the wheel axle from left side.



7. Install:
   - Drive chain puller (right) ①
   - Plain washer ②
   - Axle nut ③

TIP

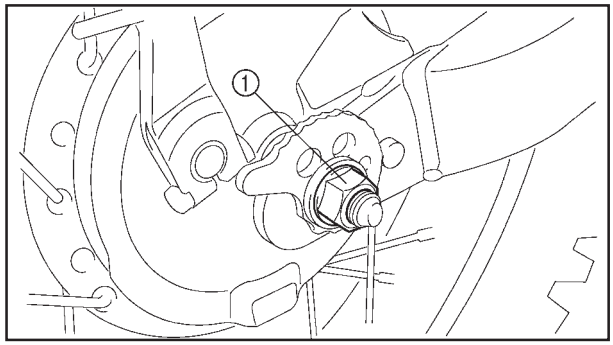
Temporarily tighten the axle nut at this point.



8. Adjust:
   - Drive chain slack ⓐ

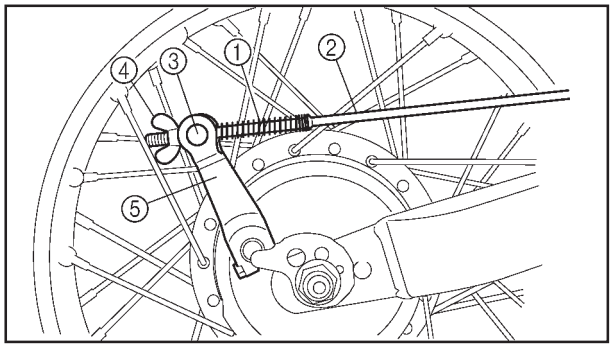
Drive chain slack:
35 ~ 50 mm (1.4 ~ 2.0 in)

Refer to "DRIVE CHAIN SLACK ADJUSTMENT" section in the CHAPTER 3.



9. Tighten:
   - Axle nut ①

60 Nm (6.0 m · kg, 43 ft · lb)

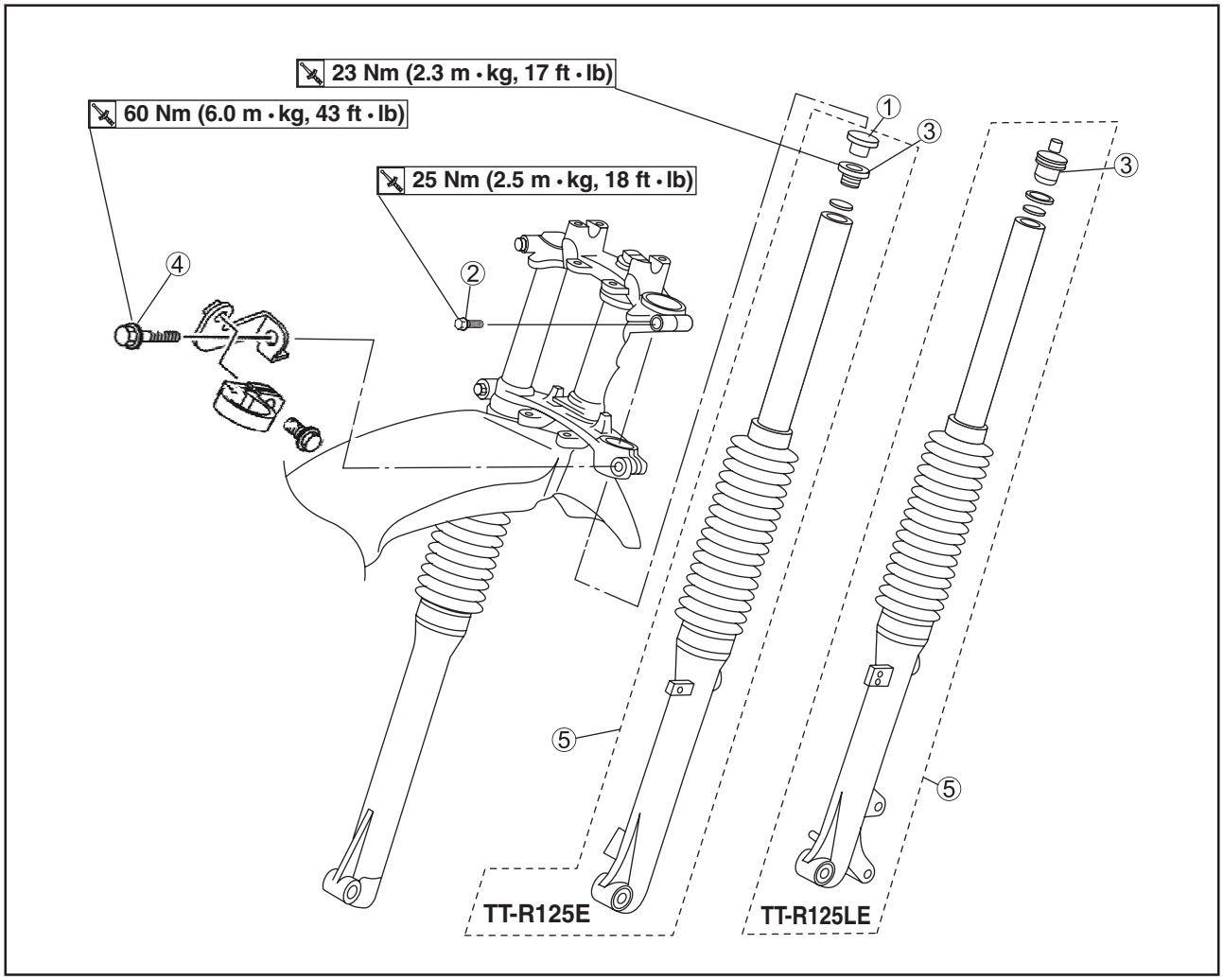


10. Install:
    - Spring ①
    - Brake rod ②
    - Pin ③
    - Wing nut ④
      On brake camshaft lever ⑤.

11. Adjust:
    - Brake pedal free play
      Refer to "REAR BRAKE ADJUSTMENT" section in the CHAPTER 3.

EC550000

FRONT FORK



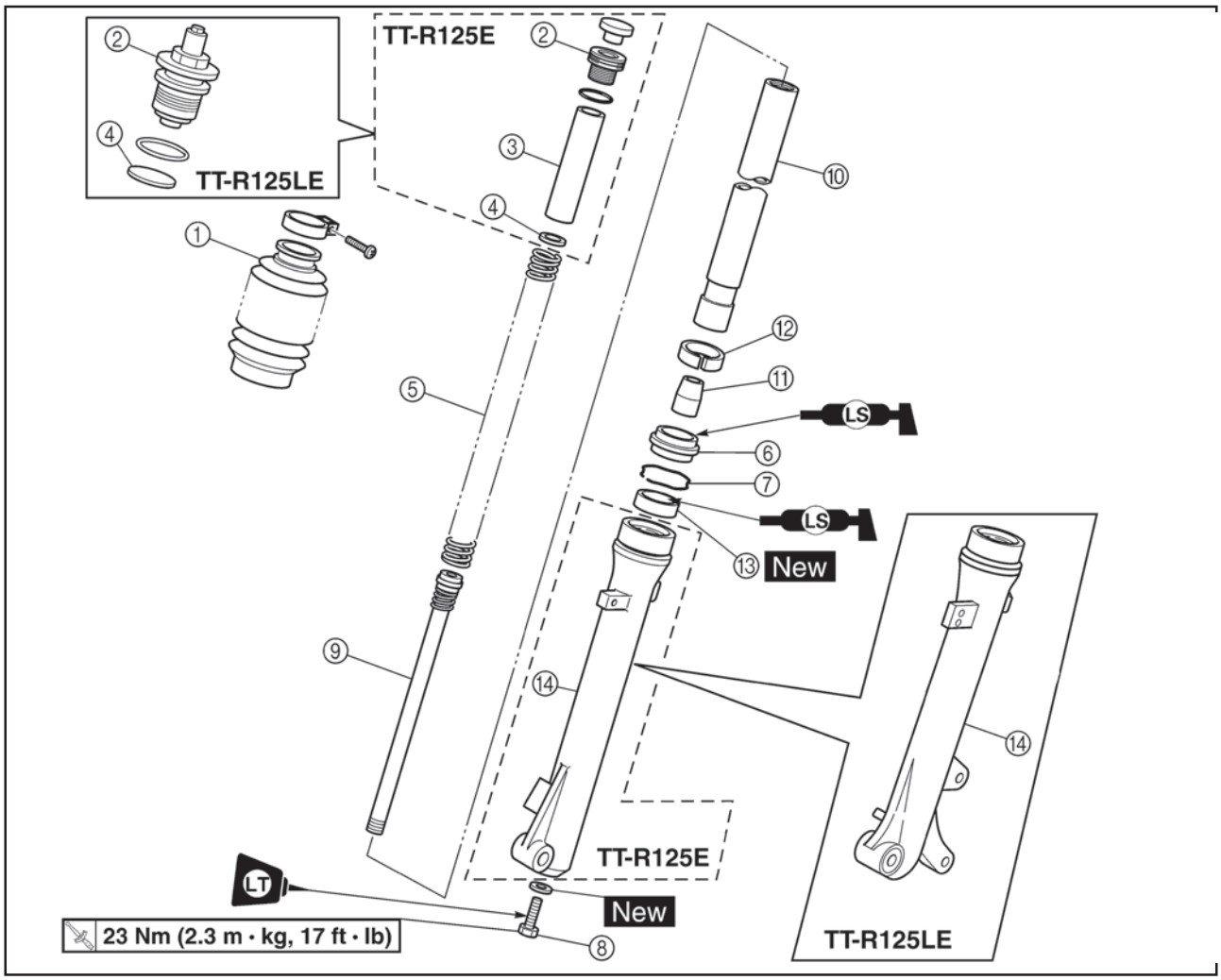
A TT-R125E
B TT-R125LE

Extent of removal: ① Front fork removal

Extent of removal	Order	Part name	Q'ty		Remarks
Preparation for removal		**FRONT FORK REMOVAL** Hold the machine by placing the suitable stand under the engine			**WARNING** **Support the machine securely so there is no danger of it falling over.**
		Front wheel			Refer to "FRONT WHEEL AND FRONT BRAKE" section for the TT-R125E. (Refer to "FRONT WHEEL" section for the TT-R125LE.)
		Handlebar			Refer to "HANDLEBAR" section.
			A	B	
①	1	Cap	1	-	
	2	Pinch bolt (upper bracket)	1	1	Only loosening.
	3	Cap bolt	1	1	Loosen when disassembling the front fork.
	4	Pinch bolt (lower bracket)	1	1	Only loosening.
	5	Front fork	1	1	

EC558000

FRONT FORK DISASSEMBLY



A TT-R125E
B TT-R125LE

Extent of removal: ① Oil seal removal ② Damper rod removal

Extent of removal	Order	Part name	Q'ty A	Q'ty B	Remarks
		FRONT FORK DISASSEMBLY			
① ②	1	Dust boot	1	1	
	2	Cap bolt	1	1	Refer to "REMOVAL POINTS".
	3	Spacer	1	-	
	4	Washer	1	1	
②	5	Fork spring	1	1	Drain the fork oil.
	6	Dust seal	1	1	
	7	Stopper ring	1	1	
①	8	Bolt (damper rod)	1	1	
	9	Damper rod	1	1	Use special tool.
	10	Inner tube	1	1	Refer to "REMOVAL POINTS".
	11	Oil flow stopper	1	1	
	12	Piston metal	1	1	
	13	Oil seal	1	1	
	14	Outer tube	1	1	

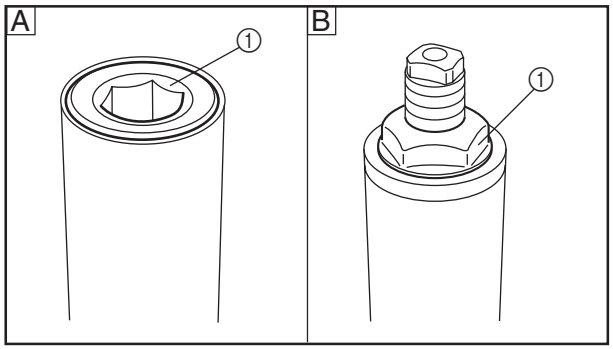
HANDLING NOTE

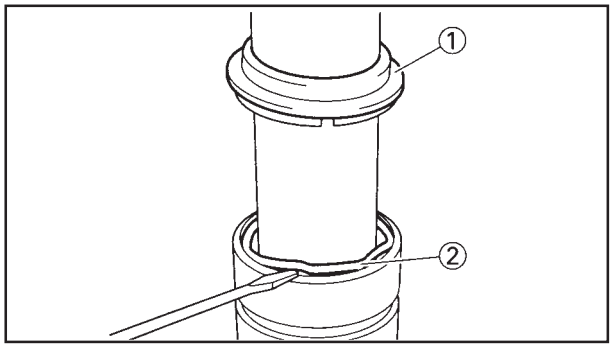
TIP

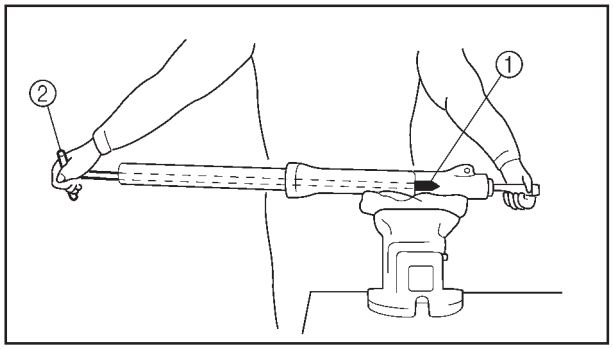
The front fork requires careful attention. So it is recommended that the front fork be maintained at the dealers.

NOTICE

To prevent an accidental explosion of air, the following instructions should be observed:
The front fork with a built-in piston rod has a very sophisticated internal construction and is particularly sensitive to foreign material.
Use enough care not to allow any foreign material to come in when the oil is replaced or when the front fork is disassembled and reassembled.







EC553000

REMOVAL POINTS

Cap bolt

1. Remove:
   - Cap bolt ①
     From the inner tube.

TIP

Before removing the front fork from the machine, loosen the cap bolt.

Ⓐ TT-R125E
Ⓑ TT-R125LE

Inner tube

1. Remove:
   - Dust seal ①
   - Stopper ring ②
     Using slotted-head screwdriver.

NOTICE

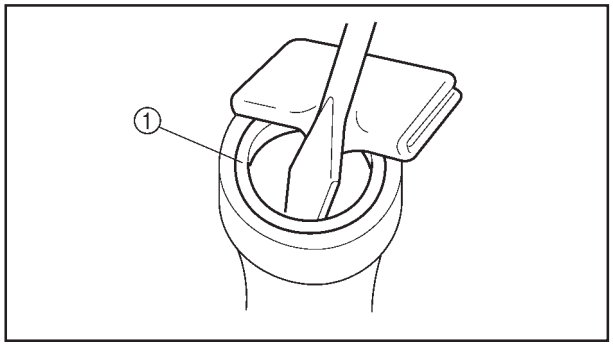
Take care not to scratch the inner tube.

2. Remove:
   - Bolt (damper rod)
   - Damper rod
   - Inner tube
   - Oil flow stopper
   - Piston metal

TIP

Use the damper rod holder ① and the T-handle ② to lock the damper rod.

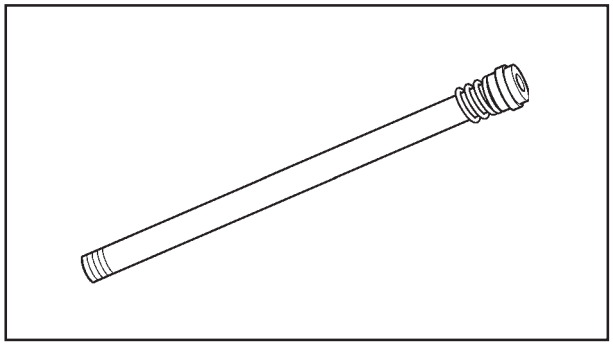
Damper rod holder:
YM-1300/90890-01294
T-handle:
YM-1326/90890-01326



3. Remove:
   - Oil seal ①
     Using slotted-hand screwdriver.

NOTICE

Take care not to scratch the outer tube.



EC554000

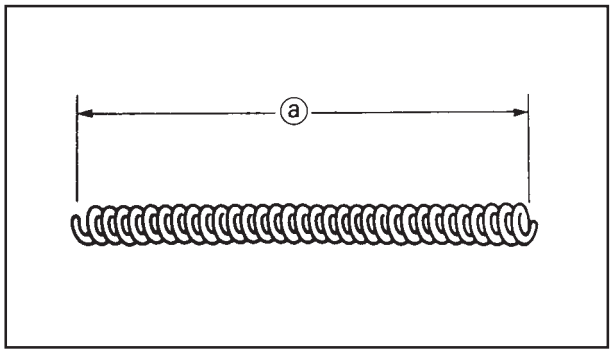
INSPECTION

Damper rod

1. Inspect:
   - Damper rod
     Bend/damage → Replace damper rod.

NOTICE

The front fork with a built-in piston rod has a very sophisticated internal construction and is particularly sensitive to foreign material.
Use enough care not to allow any foreign material to come in when the oil is replaced or when the front fork is disassembled and reassembled.

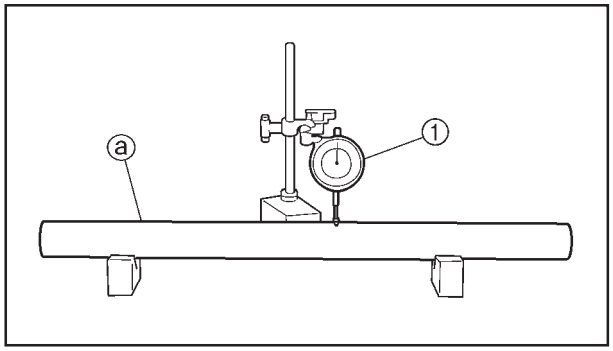


EC554400

Fork spring

1. Measure:
   - Fork spring free length ⓐ
     Out of specification → Replace.

Fork spring free length:	
Standard	**<Limit>**
TT-R125E: **478.7 mm (18.82 in)** **TT-R125LE:** **469.4 mm (18.46 in)**	**TT-R125E:** **472.2 mm (18.59 in)** **TT-R125LE:** **463.9 mm (18.23 in)**



Inner tube

1. Inspect:
   - Inner tube surface ⓐ
     Score marks → Repair or replace.
     Use #1,000 grit wet sandpaper.
     Damaged oil lock piece → Replace.
   - Inner tube bends
     Out of specification → Replace.
     Use the dial gauge ①.

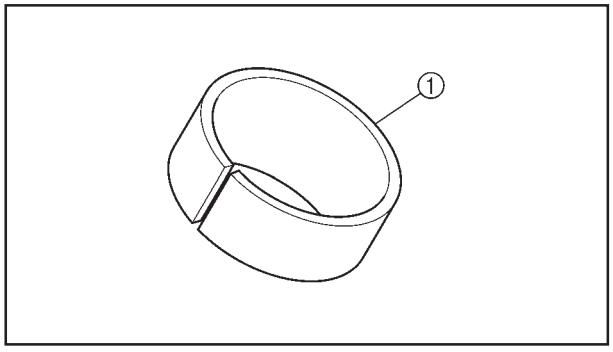
Inner tube bending limit:
0.2 mm (0.008 in)

TIP

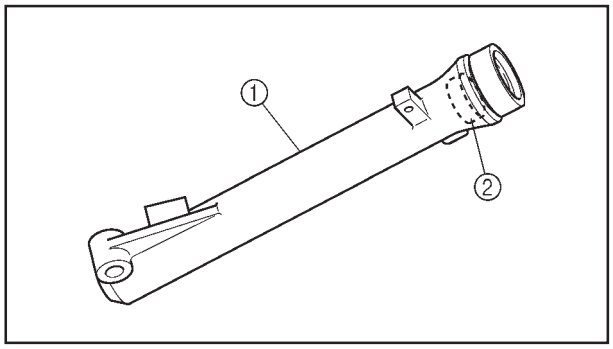
The bending value is shown by one half of the dial gauge reading.

⚠ WARNING

Do not attempt to straighten a bent inner tube as this may dangerously weaken the tube.

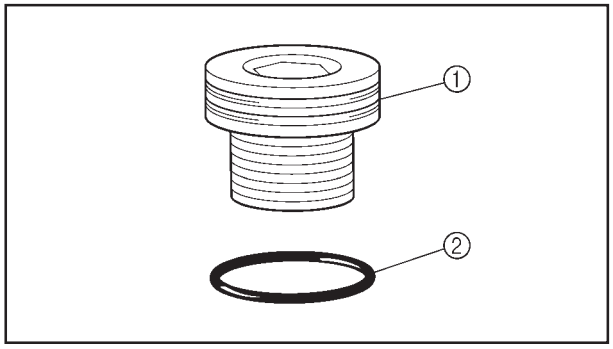


2. Inspect:
   - Piston metal ①
     Wear/damage → Replace.



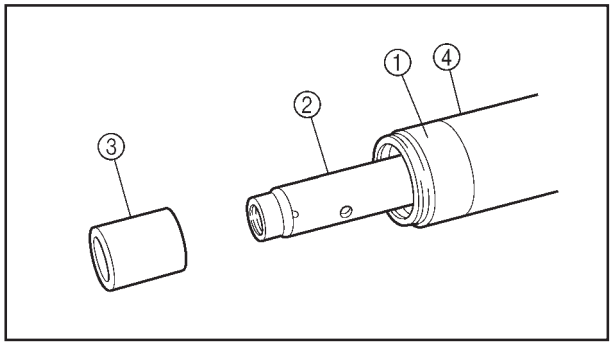
Outer tube

1. Inspect:
   - Outer tube ①
   - Slide metal ②
     Score marks/wear/damage → Replace outer tube assembly.



Cap bolt

1. Inspect:
   - Cap bolt ①
   - O-ring ②
     Wear/damage → Replace.



EC555000

ASSEMBLY AND INSTALLATION

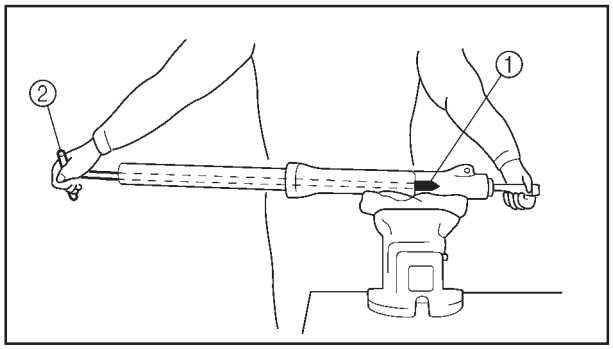
Front fork assembly

1. Wash the all parts in a clean solvent.
2. Install:
   - Piston metal ①
   - Damper rod ②
   - Oil flow stopper ③
     On inner tube ④.

NOTICE

To install the damper rod into the inner tube, hold the inner tube aslant. If the inner tube is held vertically, the damper rod may fall into it and be damaged.

3. Install:
   - Inner tube
     On outer tube.



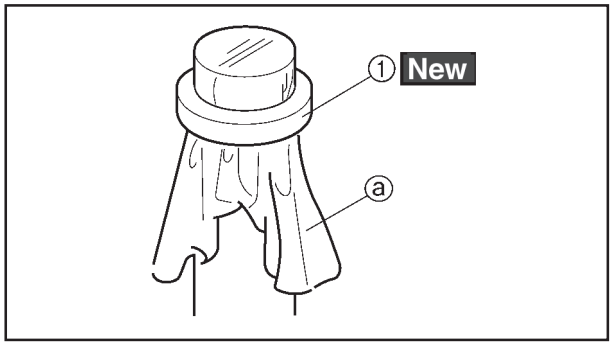
4. Install:
   - Copper washer **New**
   - Bolt (damper rod)

23 Nm (2.3 m · kg, 17 ft · lb)

TIP

Use the damper rod holder ① and the T-handle ② to lock the damper rod.

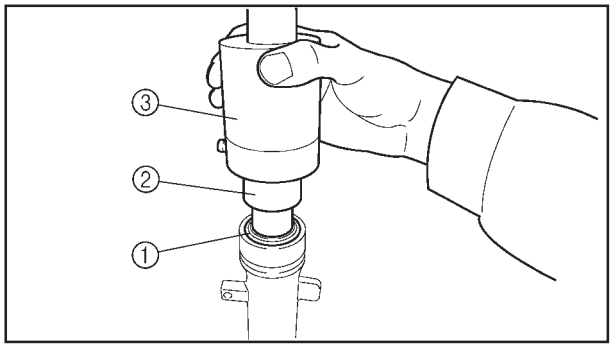
Damper rod holder:
YM-1300/90890-01294
T-handle:
YM-01326/90890-01326.



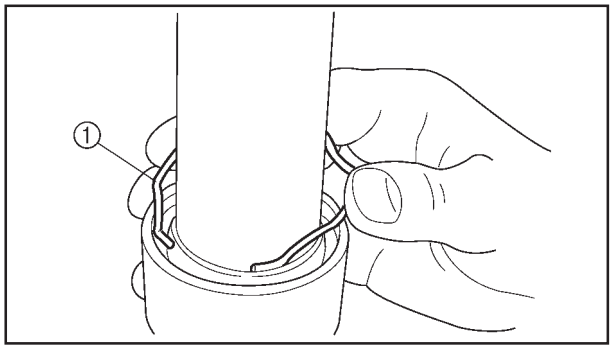
5. Install:
   - Oil seal ① **New**

TIP

- Apply the fork oil on the inner tube.
- When installing the oil seal, use vinyl seat ⓐ with fork oil applied to protect the oil seal lip.
- Install the oil seal with its manufacturer's marks or number facing upside.
- Press the oil seal into the outer tube with fork seal driver attachment (ø30) ② and fork seal driver weight ③.



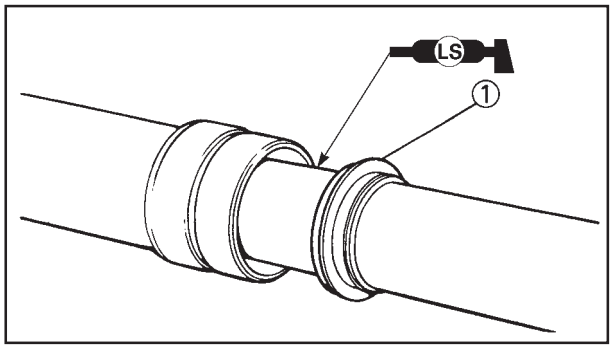
Fork seal driver weight:
YM-33963/90890-01367
Fork seal driver attachment:
YM-33281/90890-01400



6. Install:
   - Stopper ring ①

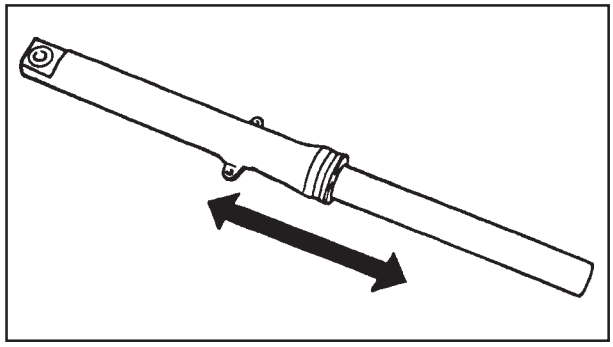
TIP

Fit the stopper ring correctly in the groove in the outer tube.

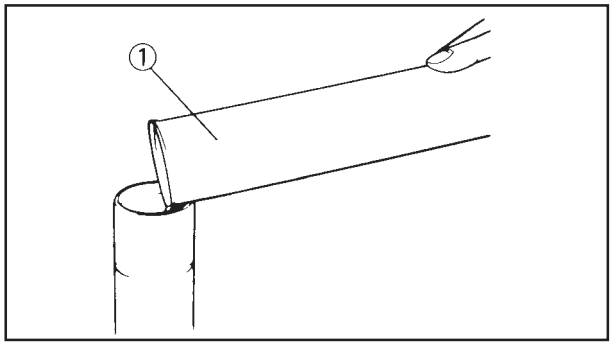


7. Install:
   - Dust seal ①

TIP
Apply the lithium soap base grease on the inner tube.



8. Check:
   - Inner tube smooth movement
     Tightness/binding/rough spots → Repeat the steps 2 to 7.



9. Compress the front fork fully.

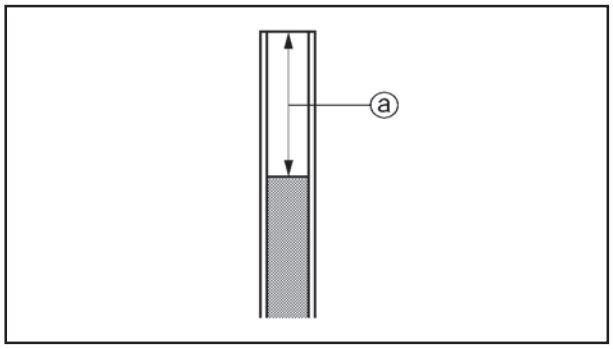
10. Fill:
    - Front fork oil ①

Recommended oil:
Fork oil 10W or equivalent
Quantity (each front fork leg):
TT-R125E:
171 cm³
(6.02 Imp oz, 5.78 US oz)
TT-R125LE:
164 cm³
(5.77 Imp oz, 5.54 US oz)

NOTICE

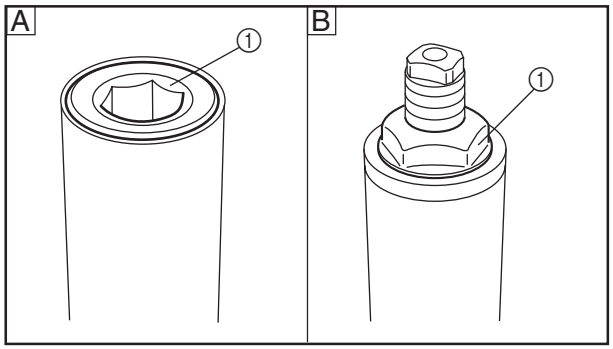
- **Be sure to use recommended fork oil. If other oils are used, they may have an excessively adverse effect on the front fork performance.**
- **Never allow foreign materials to enter the front fork.**

11. After filling, pump the inner tube slowly up and down more than 10 times to distribute the fork oil.



12. Measure:
    - Oil level ⓐ
      Out of specification → Adjust.

Standard oil level:
TT-R125E:
120 mm (4.72 in)
TT-R125LE:
134 mm (5.27 in)
From the top of the inner tube, with the inner tube fully compressed, and without the fork spring.



13. Install:
    - Fork spring
    - Washer
    - Spacer
      (TT-R125E)
    - Cap bolt ①
    - Dust boot

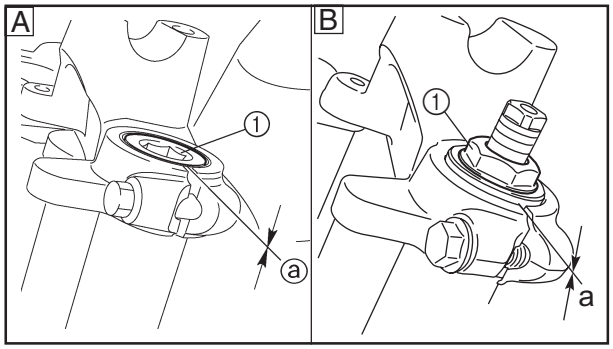
TIP
Temporarily tighten the cap bolt.

Ⓐ TT-R125E
Ⓑ TT-R125LE

Installation

1. Install:
    - Front fork

TIP
- Temporarily tighten the pinch bolt (lower bracket).
- Do not tighten the pinch bolt (upper bracket) yet.



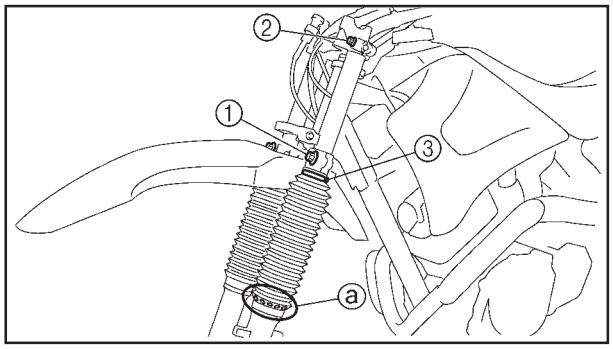
2. Tighten:
    - Cap bolt ①

23 Nm (2.3 m · kg, 17 ft · lb)

3. Adjust:
    - Front fork top end ⓐ

Front fork top end (standard) ⓐ:
Zero mm (Zero in)

Ⓐ TT-R125E
Ⓑ TT-R125LE



4. Tighten:
   - Pinch bolt (lower bracket) ①

     60 Nm (6.0 m · kg, 43 ft · lb)

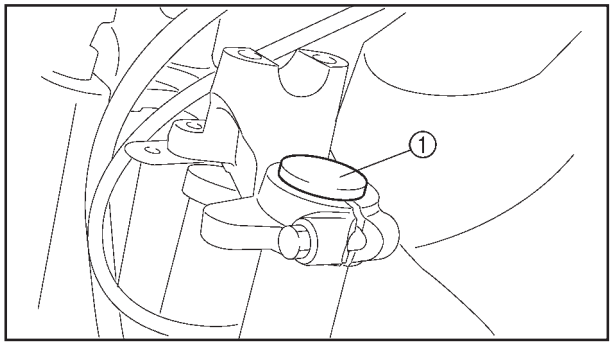
   - Pinch bolt (upper bracket) ②

     25 Nm (2.5 m · kg, 18 ft · lb)

   - Screw (dust boot) ③

TIP

- Make sure that the dust boot holes ⓐ are positioned outward.
- Tighten the screw (dust boot) until the top of the dust boot is touching the lower bracket.

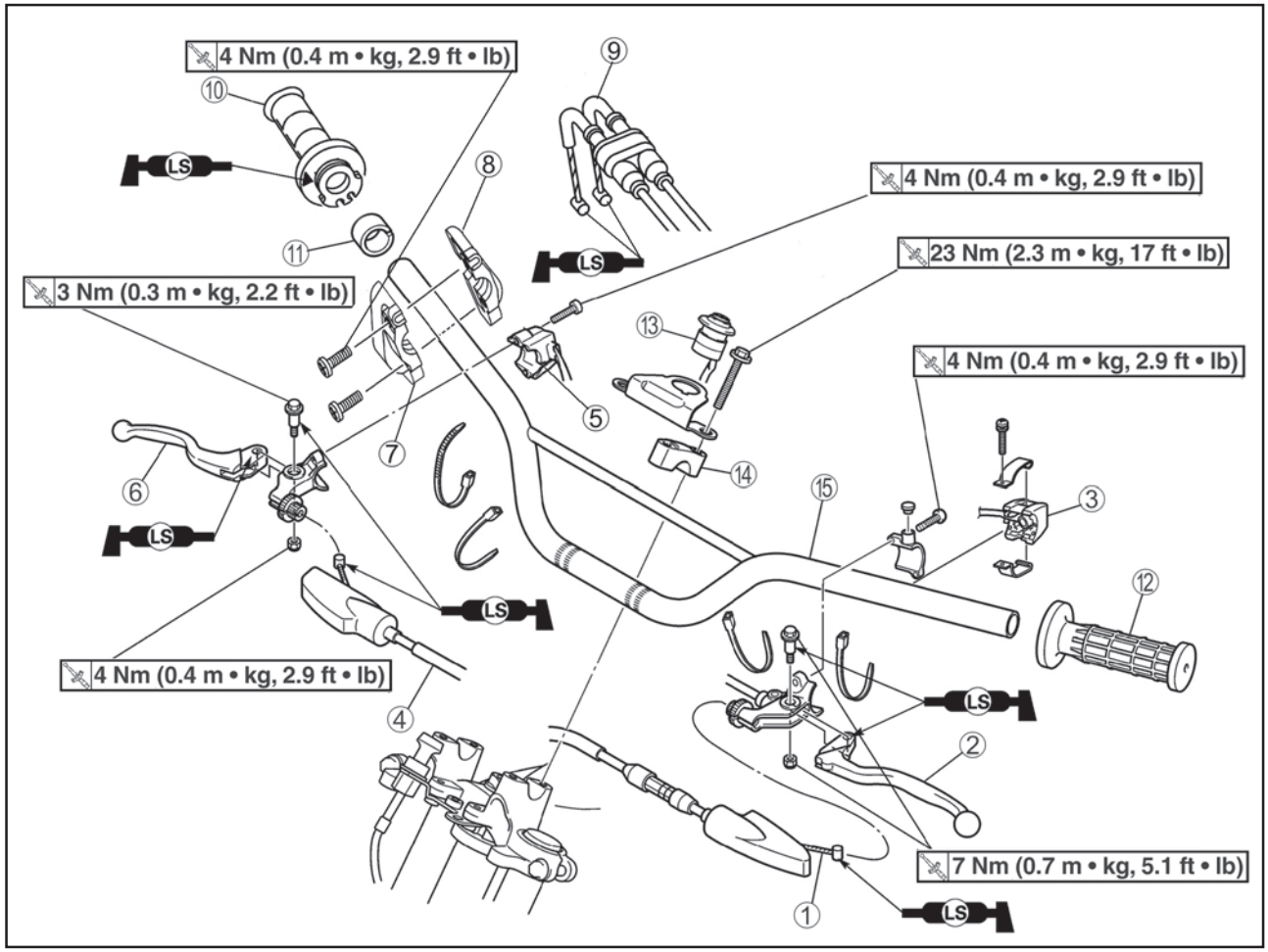


5 Install:
TT-R125E
- Cap ①

EC5B0000

HANDLEBAR

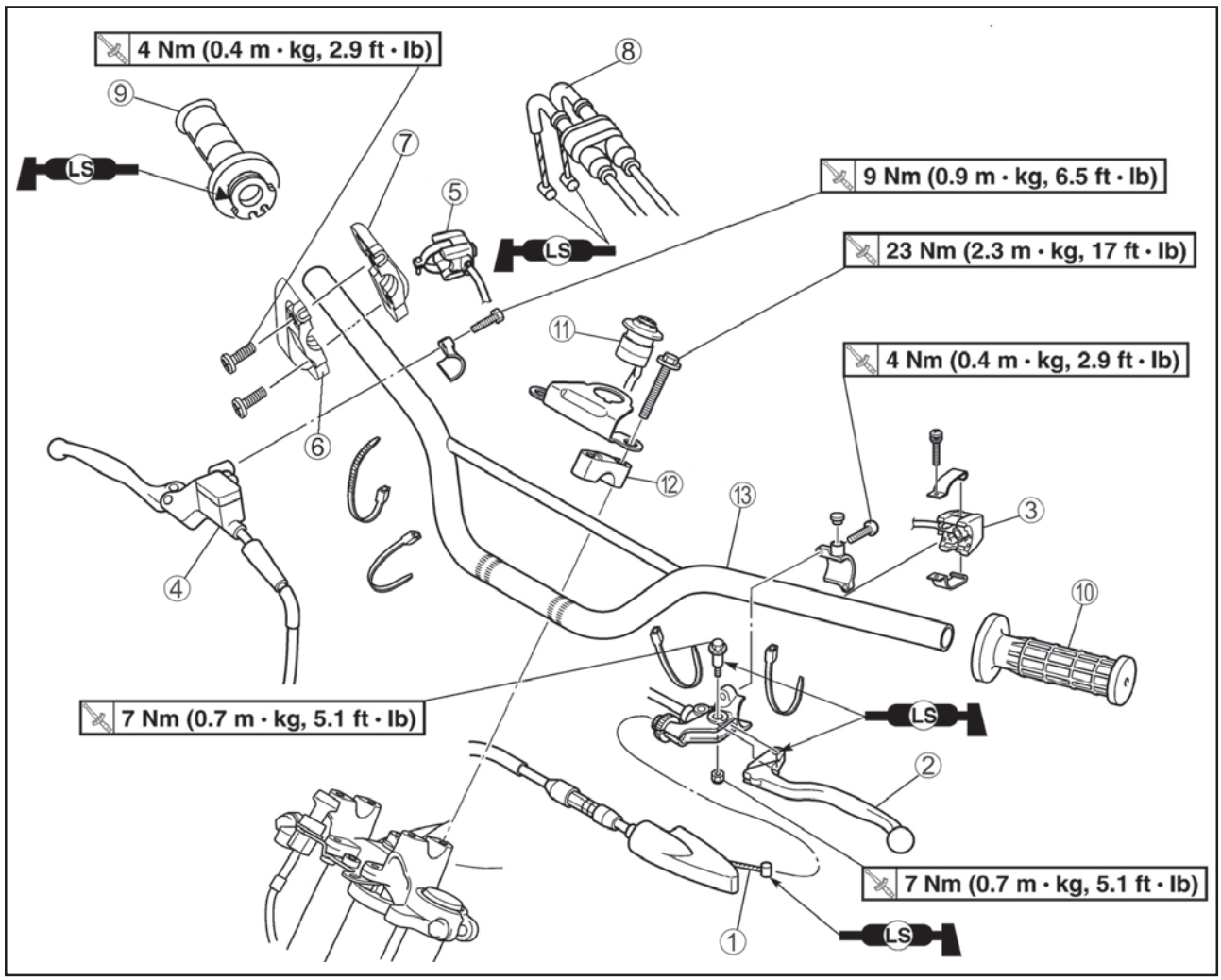
TT-R125E


4 Nm (0.4 m • kg, 2.9 ft • lb)
3 Nm (0.3 m • kg, 2.2 ft • lb)
4 Nm (0.4 m • kg, 2.9 ft • lb)
23 Nm (2.3 m • kg, 17 ft • lb)
4 Nm (0.4 m • kg, 2.9 ft • lb)
4 Nm (0.4 m • kg, 2.9 ft • lb)
7 Nm (0.7 m • kg, 5.1 ft • lb)
LS

Extent of removal: ① Handlebar removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**HANDLEBAR REMOVAL** Number plate		
①	1	Clutch cable	1	
	2	Clutch lever	1	
	3	Engine stop switch	1	
	4	Front brake cable	1	
	5	Start switch	1	
	6	Front brake lever	1	
	7	Grip cap (lower)	1	
	8	Grip cap (upper)	1	
	9	Throttle cable	2	
	10	Throttle grip assembly	1	
	11	Collar	1	
	12	Handlebar grip (left)	1	Refer to "REMOVAL POINTS".
	13	Main switch	1	
	14	Handlebar holder	2	
	15	Handlebar	1	

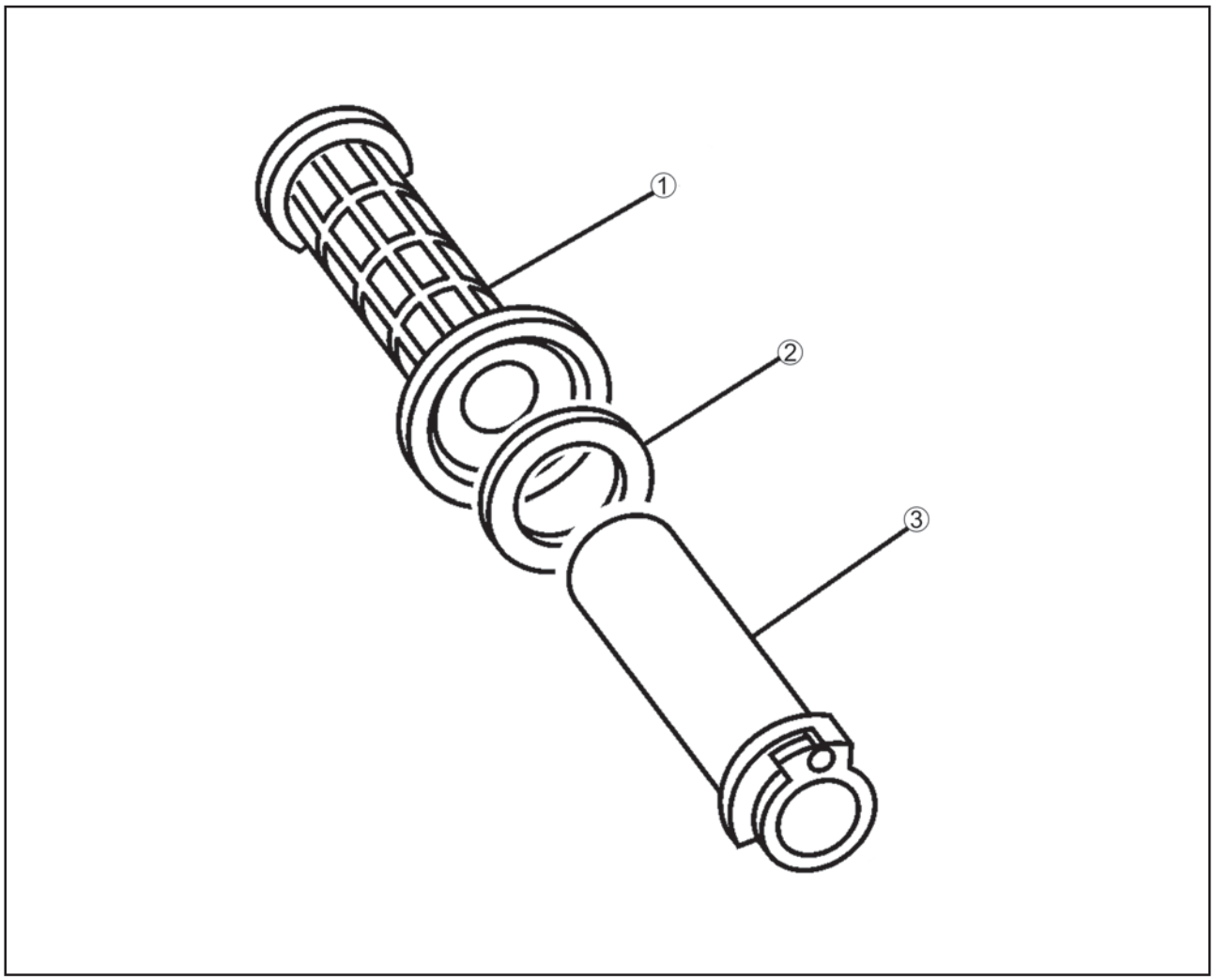
TT-R125LE



Extent of removal: ① Handlebar removal

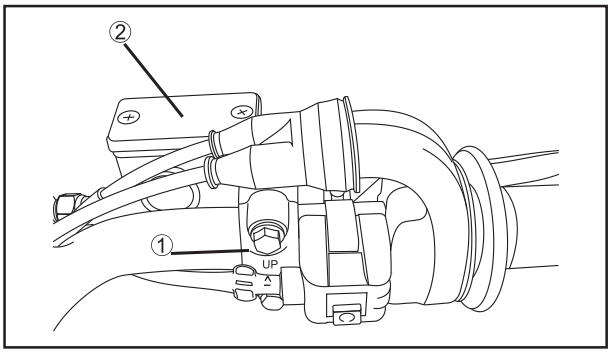
Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**HANDLEBAR REMOVAL** Number plate		
①	1	Clutch cable	1	
	2	Clutch lever	1	
	3	Engine stop switch	1	
	4	Brake master cylinder	1	Refer to "REMOVAL POINTS".
	5	Start switch	1	
	6	Grip cap (lower)	1	
	7	Grip cap (upper)	1	
	8	Throttle cable	2	
	9	Throttle grip assembly	1	
	10	Handlebar grip (left)	1	Refer to "REMOVAL POINTS".
	11	Main switch	1	
	12	Upper handlebar holder	2	
	13	Handlebar	1	

THROTTLE GRIP ASSEMBLY DISASSEMBLY



Extent of removal: ① Throttle grip assembly disassembly

Extent of removal	Order	Part name	Q'ty	Remarks
		THROTTLE GRIP ASSEMBLY DISASSEMBLY		
①	1	Handlebar grip (right)	1	Refer to "REMOVAL POINTS".
	2	Collar	1	
	3	Tube guide	1	



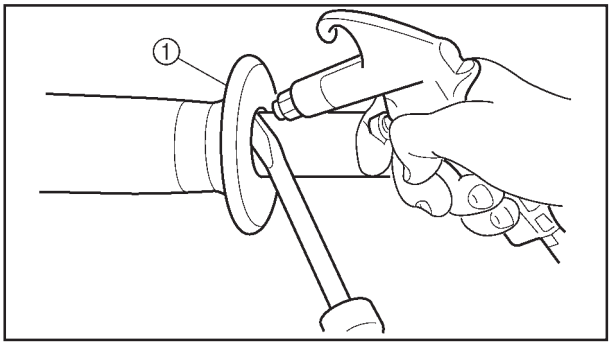
REMOVAL POINTS

Brake master cylinder

1. Remove:
   - Brake master cylinder bracket ①
   - Brake master cylinder ②

NOTICE

- **Do not let the brake master cylinder hang on the brake hose.**
- **Keep the brake master cylinder cap side horizontal to prevent air from coming in.**

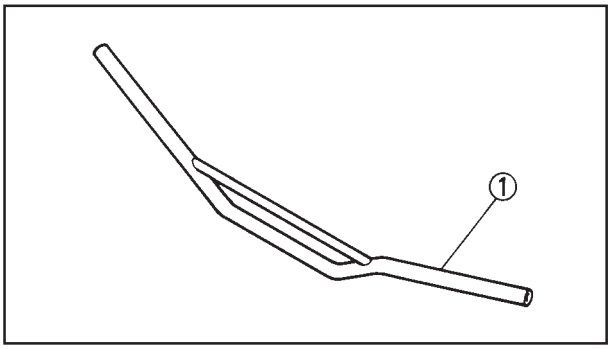


Handlebar grip

1. Remove:
   - Handlebar grip ①

TIP

Blow in air between the handlebar or tube guide and the grip. Then remove the grip which has become loose.



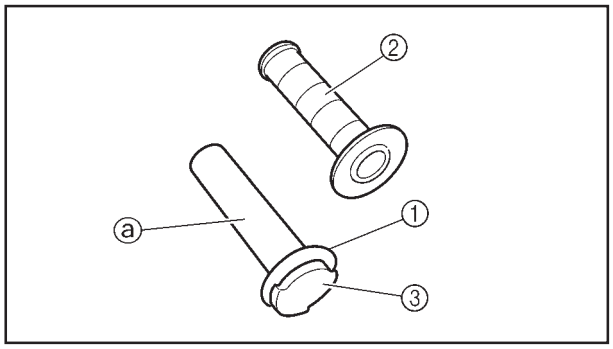
INSPECTION

Handlebar

1. Inspect:
   - Handlebar ①
     Bends/cracks/damage → Replace.

⚠ WARNING

Do not attempt to straighten a bent handlebar as this may dangerously weaken the handlebar.



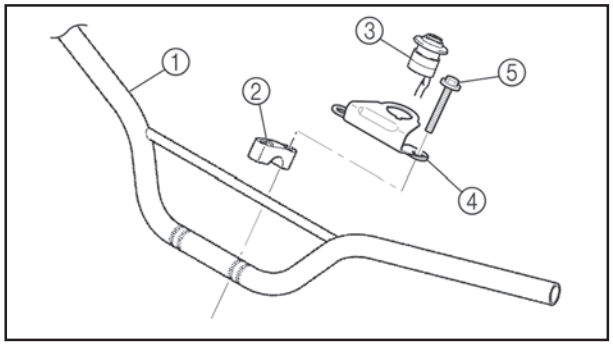
ASSEMBLY AND INSTALLATION

Throttle grip assembly

1. Install:
   - Collar ①
   - Handlebar grip (right) ②
     Apply the adhesive on the tube guide ③.

TIP

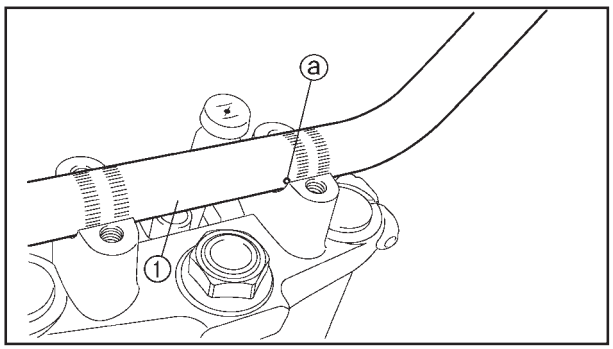
Before applying the adhesive, wipe off grease or oil on the tube guide surface ⓐ with a lacquer thinner.



Handlebar

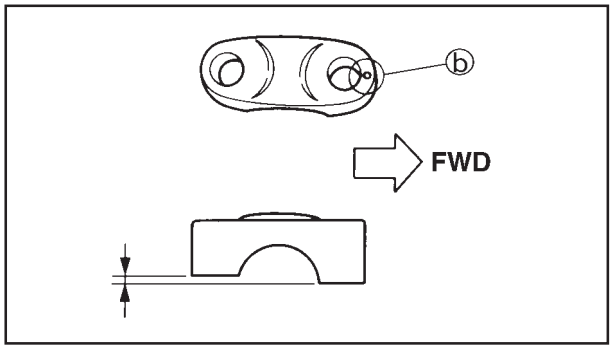
1. Install:
   - Handlebar ①
   - Handlebar holder ②
   - Main switch ③
   - Main switch holder ④
   - Bolt (handlebar holder) ⑤

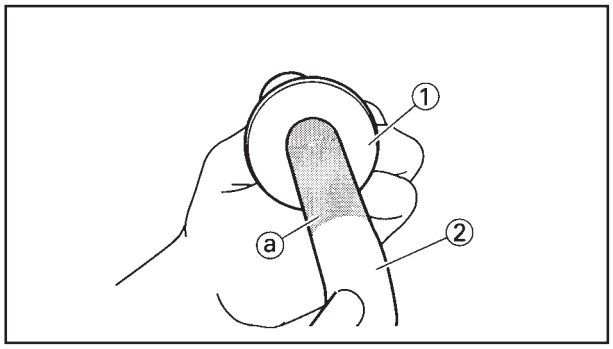
23 Nm (2.3 m · kg, 17 ft · lb)



TIP

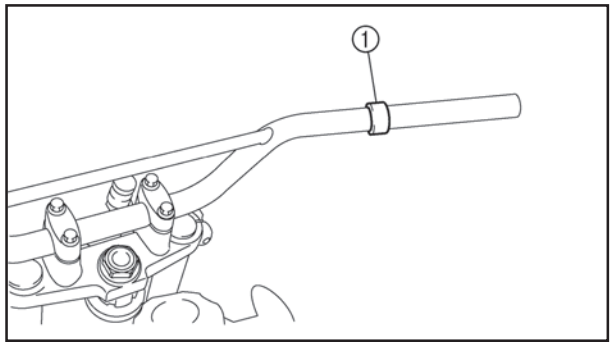
- Align the punched mark ⓐ on the handlebar with the upper surface of the handlebar holder on the upper bracket.
- The handlebar holder should be installed with the punched mark ⓑ forward.
- First tighten the bolts on the front side of the handlebar holder, and then tighten the bolts on the rear side.



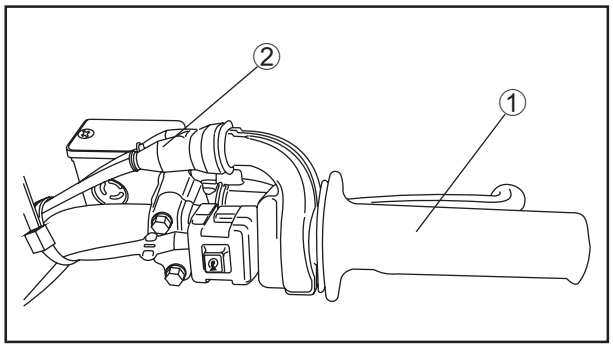


2. Install:
   - Handlebar grip (left) ①
     Apply the adhesive to the handlebar ②.

TIP
Before applying the adhesive, wipe off grease or oil on the handlebar surface ⓐ with a lacquer thinner.

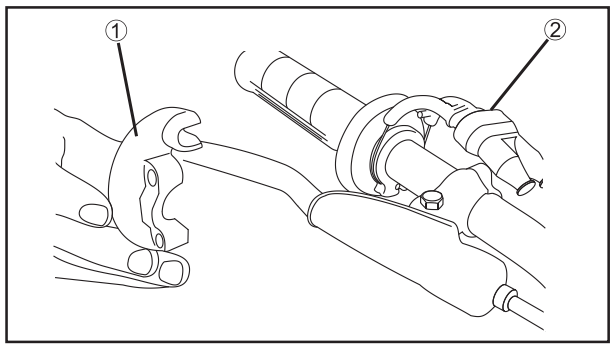


3. Install:
   TT-R125E
   - Collar ①



4. Install:
   - Throttle grip assembly ①
   - Throttle cable ②
     On tube guide .

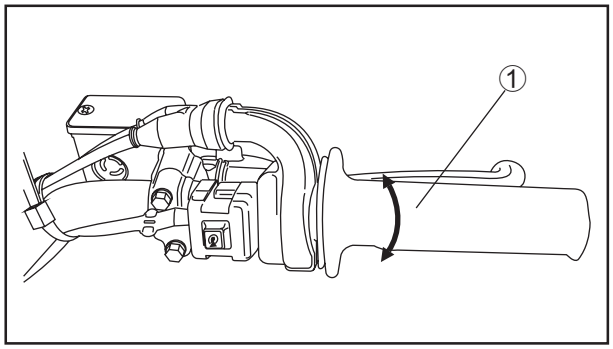
TIP
Apply the lithium soap base grease on the throttle cable end and tube guide cable winding portion.



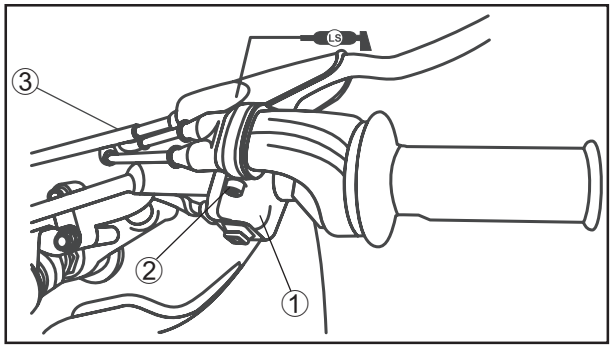
5. Install:
   - Grip cap (lower) ①
   - Grip cap (upper)
   - Screw (grip cap)

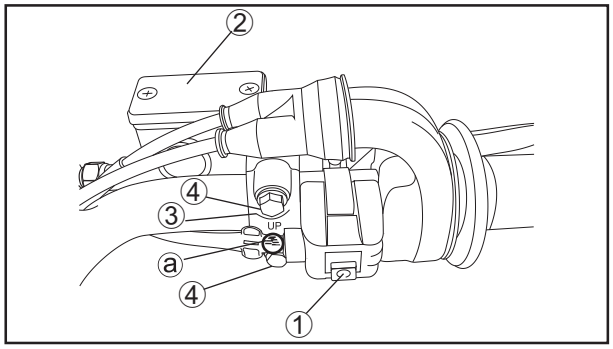
	4 Nm (0.4 m · kg, 2.9 ft · lb)

   - Cover (grip cap) ②



⚠ WARNING
After tightening the screws, check that the throttle grip ① moves smoothly. If it does not, retighten the bolts for adjustment.





6. Install:

TT-R125E
- Start switch ①
- Bolts (start switch) ②

4 Nm (0.4 m · kg, 2.9 ft · lb)

- Front brake cable ③
- Clamp

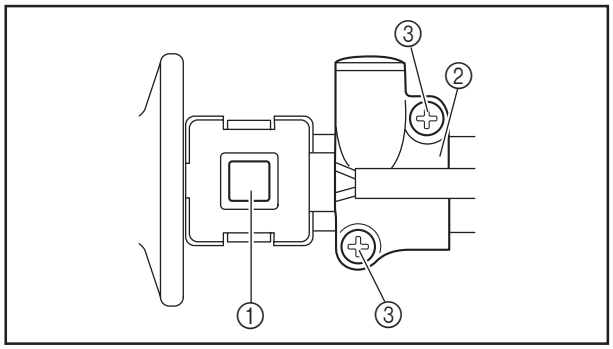
TIP

Apply the lithium soap base grease on the front brake cable end.

TT-R125LE
- Start switch ①
- Brake master cylinder ②
- Brake master cylinder bracket ③
- Bolt (brake master cylinder bracket) ④

9 Nm (0.9 m · kg, 6.5 ft · lb)

TIP
- Install the bracket so that the arrow mark ⓐ face upward.
- First tighten the bolts on the upper side of the brake master cylinder bracket, and then tighten the bolts on the lower side.

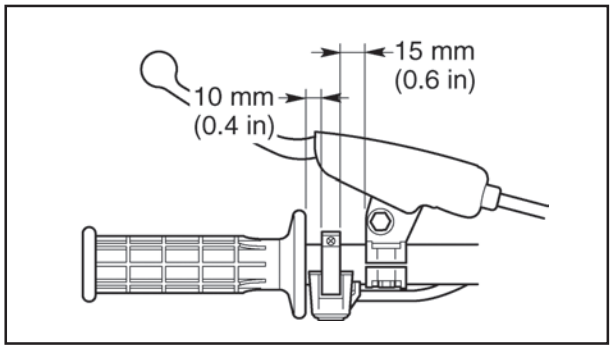


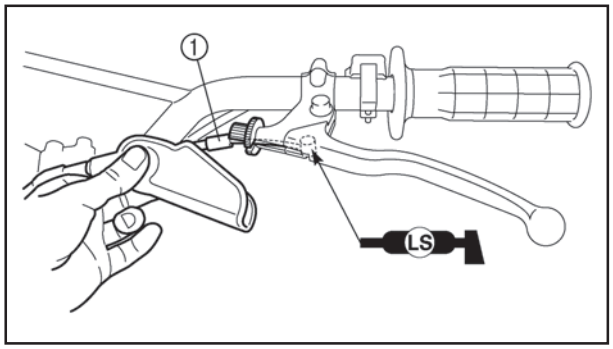
7. Install:
   - Engine stop switch ①
   - Clutch lever holder ②
   - Screws ③

	4 Nm (0.4 m · kg, 2.9 ft · lb)

TIP

- The engine stop switch and clutch lever holder should be installed according to the dimensions shown.
- Pass the engine stop switch lead in the middle of the clutch lever holder.





8. Install:
   - Clutch cable ①
   - Clamp

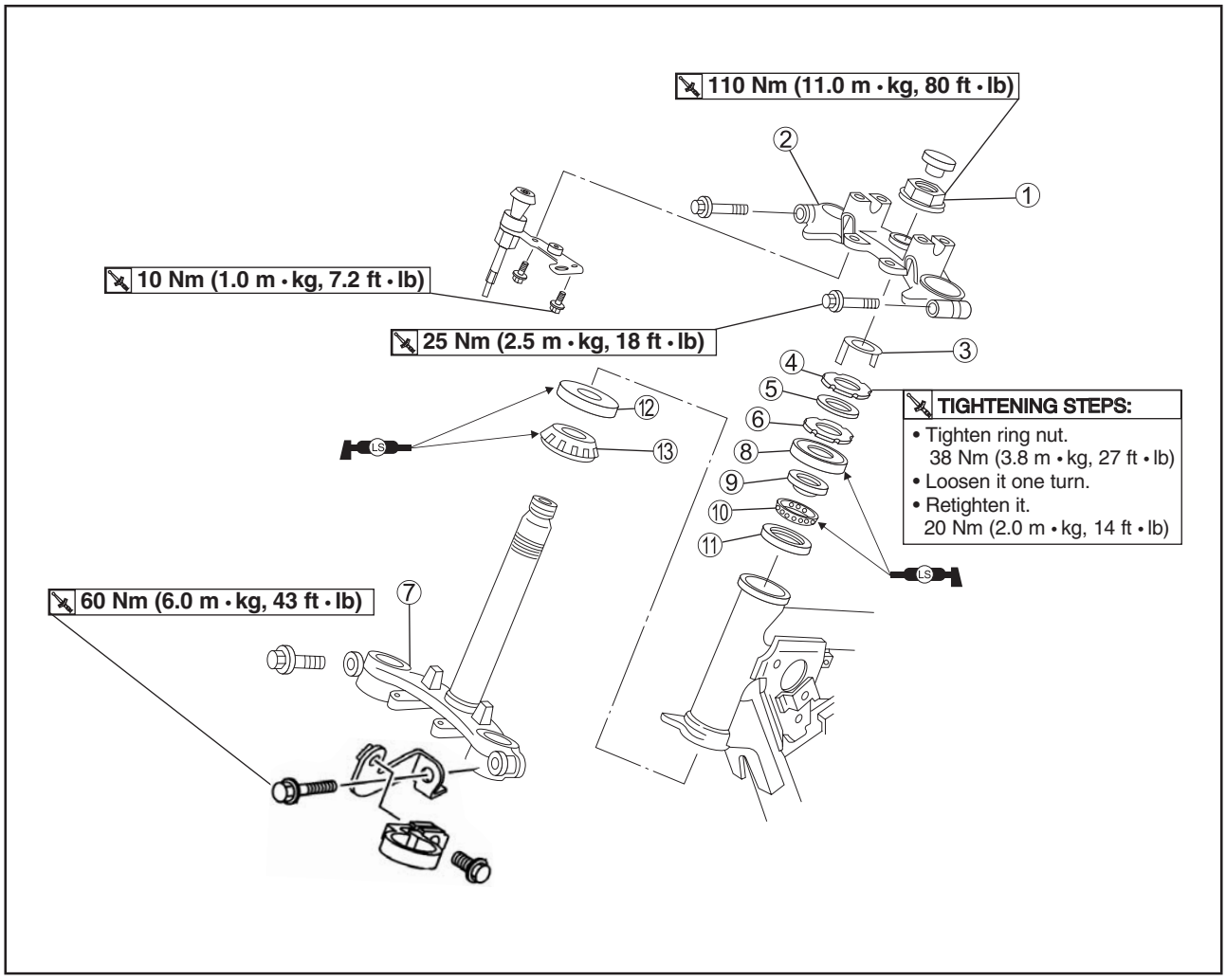
TIP

Apply the lithium soap base grease on the clutch cable end.

9. Adjust:
   - Brake lever free play
     Refer to "FRONT BRAKE ADJUSTMENT" section in the CHAPTER 3.
   - Clutch lever free play
     Refer to "CLUTCH ADJUSTMENT" section in the CHAPTER 3.

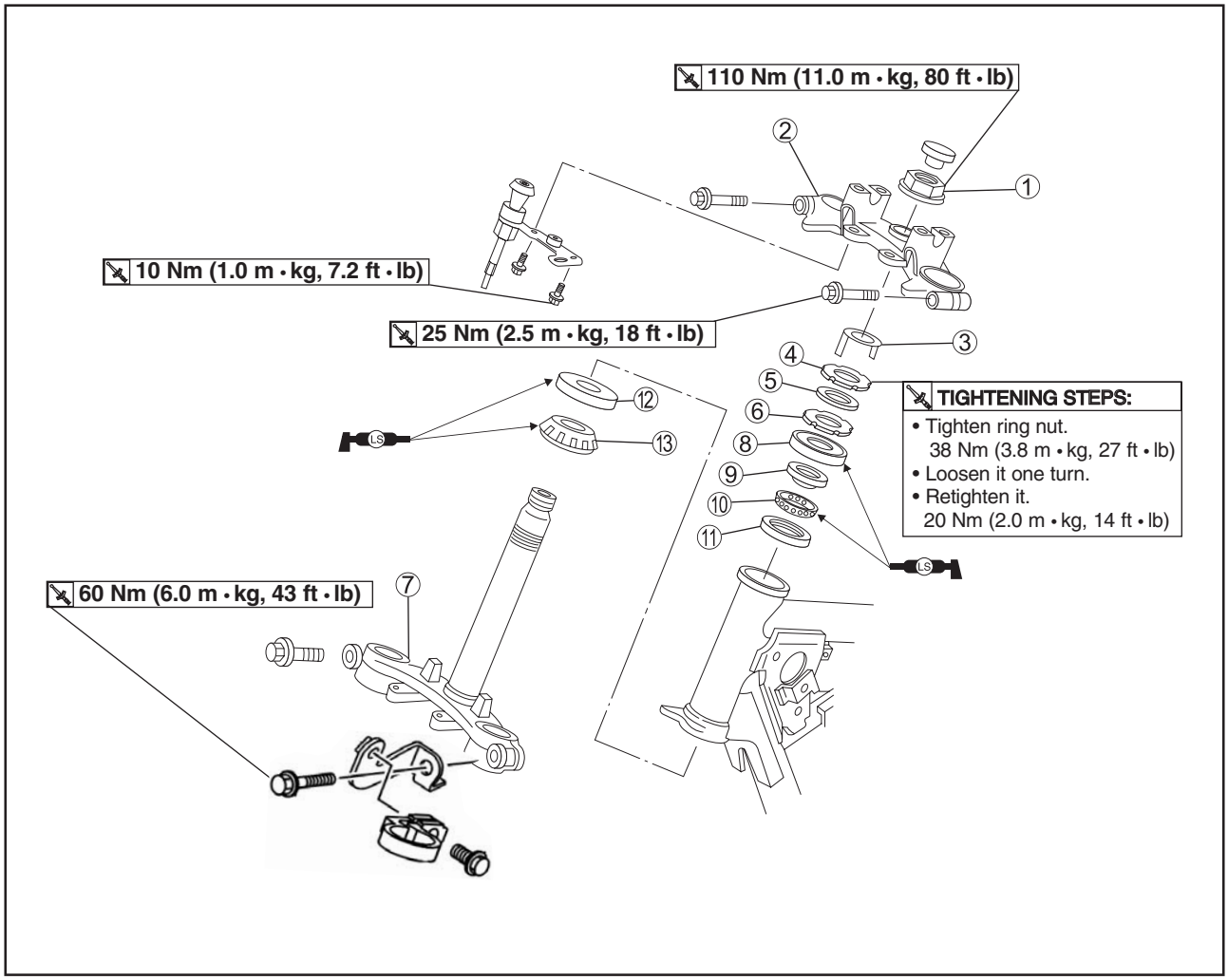
EC560000

STEERING

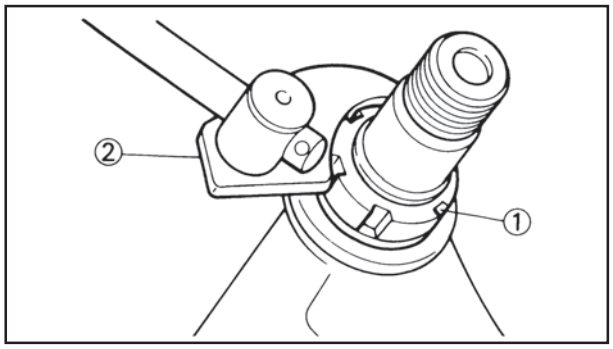


Extent of removal: ① Lower bracket removal ② Bearing removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**STEERING REMOVAL** Hold the machine by placing the suitable stand under the engine. Front forks Handlebar Front fender		**WARNING** **Support the machine securely so there is no danger of it falling over.** Refer to "FRONT FORK" section. Refer to "HANDLEBAR" section.
① ②	1	Steering stem nut	1	
	2	Upper bracket	1	
	3	Special washer	1	
	4	Upper ring nut	1	Use special tool. Refer to "REMOVAL POINTS".
	5	Rubber washer	1	
	6	Lower ring nut	1	
	7	Lower bracket	1	
	8	Bearing cover	1	


110 Nm (11.0 m • kg, 80 ft • lb)
10 Nm (1.0 m • kg, 7.2 ft • lb)
25 Nm (2.5 m • kg, 18 ft • lb)
60 Nm (6.0 m • kg, 43 ft • lb)
TIGHTENING STEPS:
• Tighten ring nut.
38 Nm (3.8 m • kg, 27 ft • lb)
• Loosen it one turn.
• Retighten it.
20 Nm (2.0 m • kg, 14 ft • lb)
LS

Extent of removal	Order	Part name	Q'ty	Remarks
②	9	Bearing inner race (upper)	1	
	10	Bearing (upper)	1	
	11	Bearing outer race (upper)	1	Refer to "REMOVAL POINTS"..
	12	Bearing outer race (lower)	1	
	13	Bearing (lower)	1	



EC563000
REMOVAL POINTS

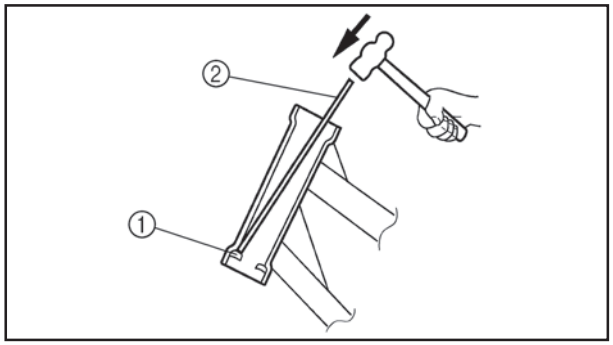
EC563202
Ring nut

1. Remove:
   - Ring nut ①
     Use the steering nut wrench ②.

	Steering nut wrench: YU-33975/90890-01403

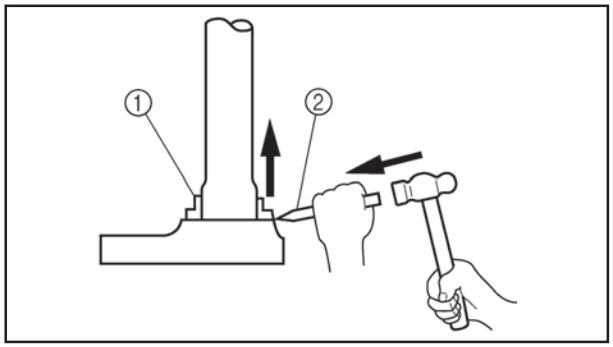
⚠ WARNING

Support the steering shaft so that it may not fall down.



Bearing race

1. Remove:
   - Bearing race ①
     Remove the bearing race using long rod ② and the hammer.

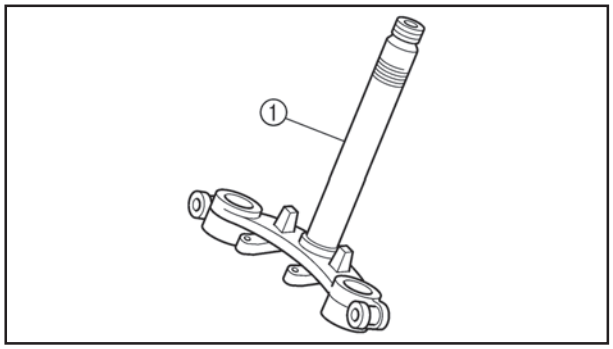


EC563300
Bearing (lower)

1. Remove:
   - Bearing (lower) ①
     Use the floor chisel ②.

NOTICE

Take care not to damage the steering shaft thread.



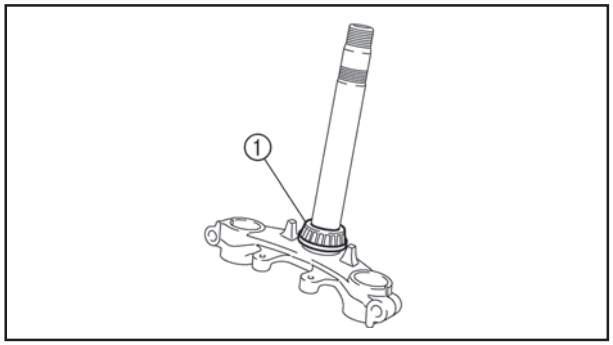
EC564000
INSPECTION

Steering stem

1. Inspect:
   - Steering stem ①
     Bend/damage → Replace.

Bearing and bearing race

1. Wash the bearings and bearing races with a solvent.
2. Inspect:
   - Bearing
   - Bearing race
     Pitting/damage → Replace bearings and bearing races as a set.
     Install the bearing in the bearing races. Spin the bearings by hand. If the bearings hang up or are not smooth in their operation in the bearing races, replace bearings and bearing races as a set.



EC565000

ASSEMBLY AND INSTALLATION

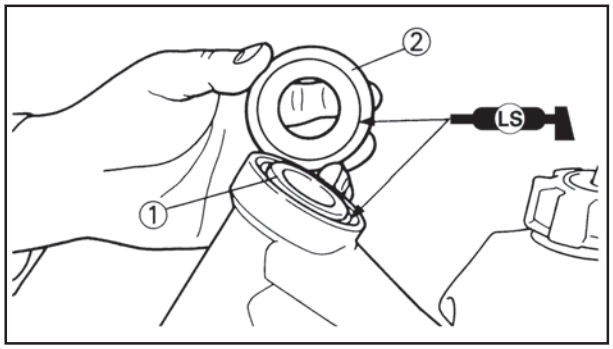
Lower bracket

1. Install:
   - Bearing (lower) ①

TIP

Apply the lithium soap base grease on the dust seal lip and bearing inner circumference.

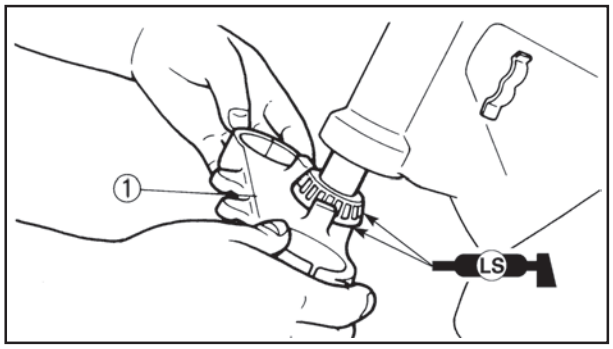
2. Install:
   - Bearing outer race (lower)
   - Bearing outer race (upper)



3. Install:
   - Bearing (upper)
   - Bearing inner race ①
   - Bearing cover ②

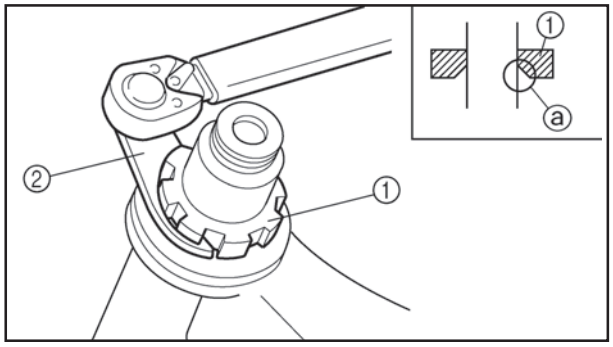
TIP

Apply the lithium soap base grease on the bearing and bearing cover lip.



4. Install:
   - Lower bracket ①

TIP
Apply the lithium soap base grease on the bearing.



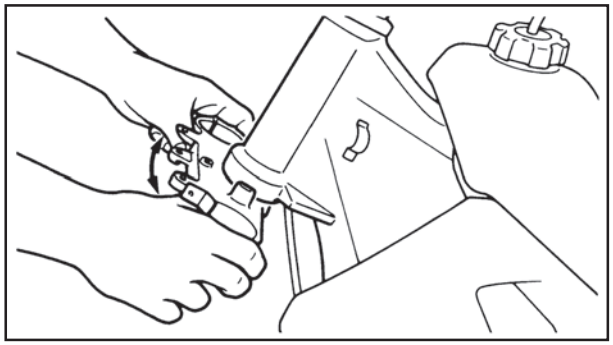
5. Install:
   - Lower ring nut ①

20 Nm (2.0 m · kg, 14 ft · lb)

   - Rubber washer
   - Upper ring nut
   - Special washer

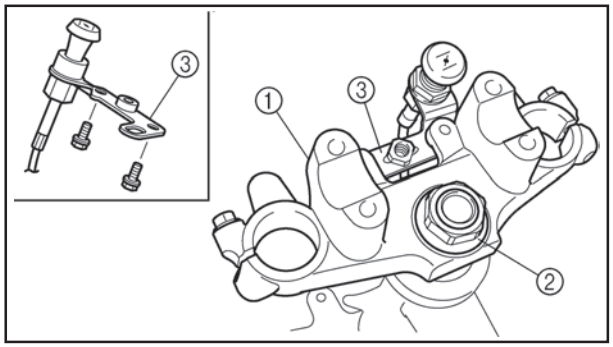
   Tighten the ring nut using the steering nut wrench ②.

TIP
Install the lower ring nut with its larger chamfered portion ⓐ facing downward.



Refer to "STEERING HEAD INSPECTION AND ADJUSTMENT" section in the CHAPTER 3.

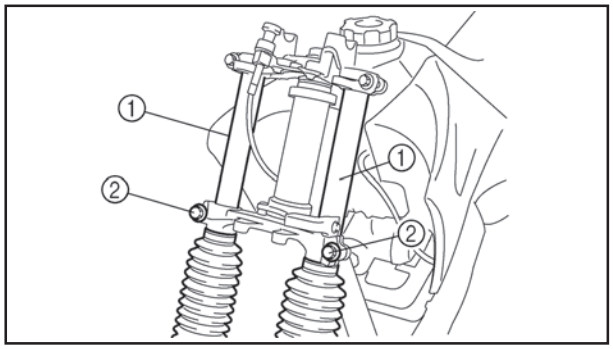
6. Check the steering shaft by turning it lock to lock. If there is any binding, remove the steering shaft assembly and inspect the steering bearings.



7. Install:
   - Upper bracket ①
   - Steering stem nut ②
   - Starter knob bracket ③

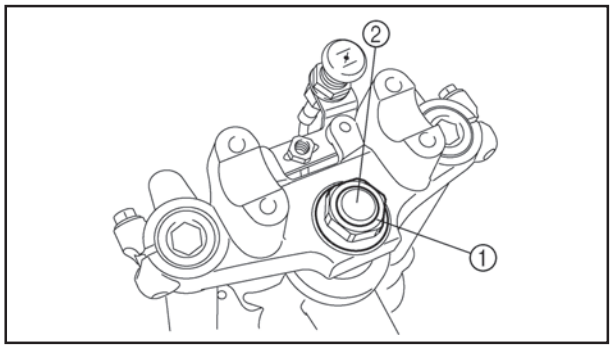
10 Nm (1.0 m · kg, 7.2 ft · lb)

TIP
Do not tighten the steering stem nut yet.



8. Install:
   - Front forks ①

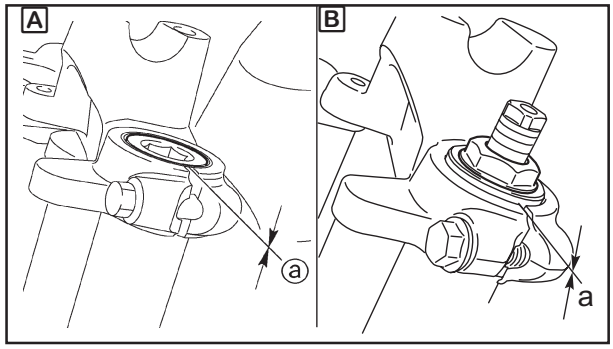
TIP
- Temporarily tighten the pinch bolts (lower bracket) ②.
- Do not tighten the pinch bolts (upper bracket) yet.



9. Tighten:
   - Steering stem nut ①

110 Nm (11.0 m · kg, 80 ft · lb)

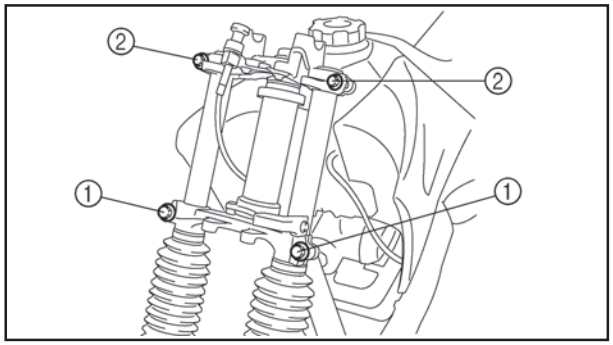
10. Install:
    - Cap ②
11. After tightening the nut, check the steering for smooth movement. If not, adjust the steering by loosening the ring nut little by little.



12. Adjust:
    - Front fork top end ⓐ

Front fork top end (standard) ⓐ:
Zero mm (Zero in)

A TT-R125E
B TT-R125LE



13. Tighten:
    - Pinch bolts (lower bracket) ①

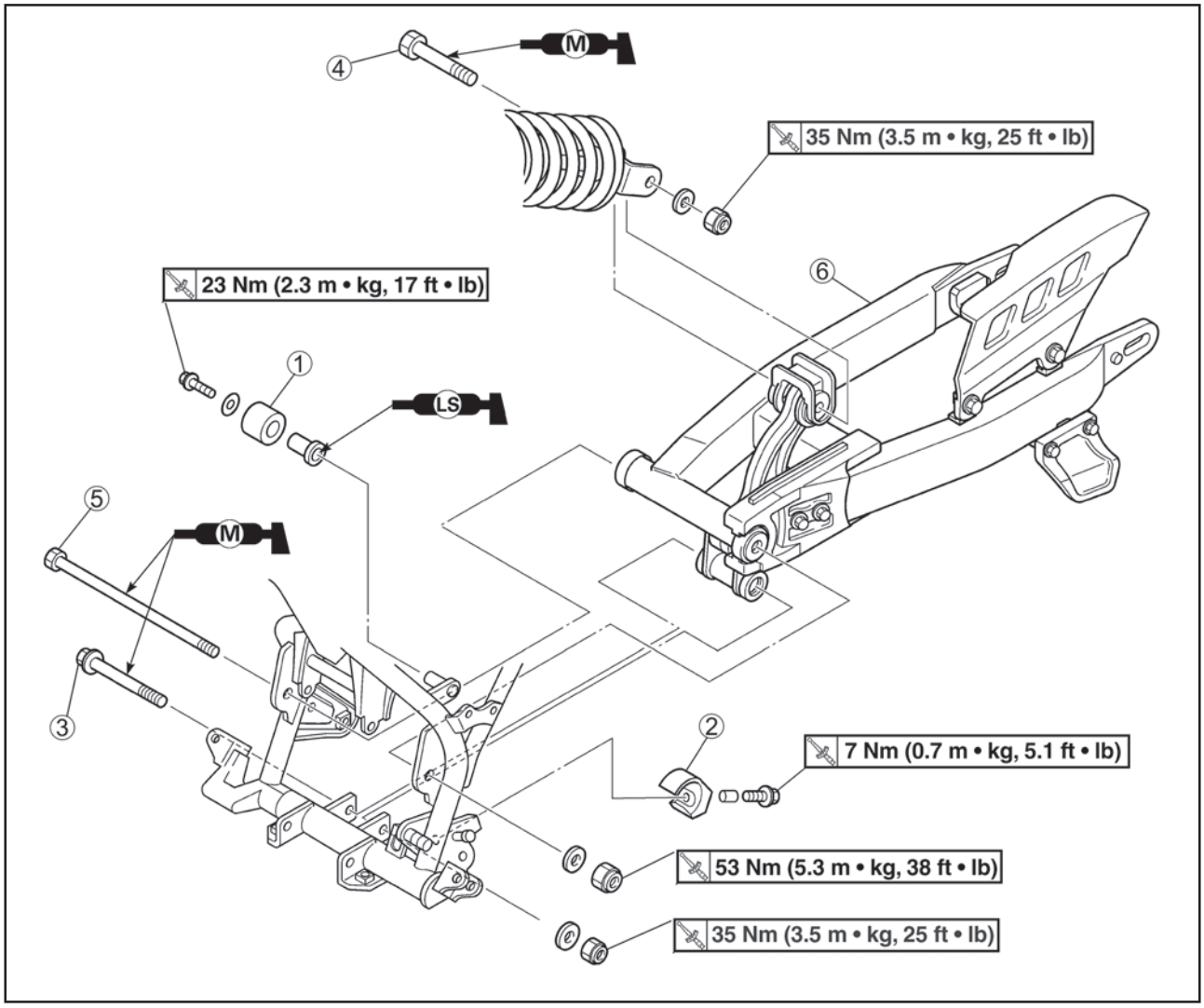
60 Nm (6.0 m · kg, 43 ft · lb)

    - Pinch bolts (upper bracket) ②

25 Nm (2.5 m · kg, 18 ft · lb)

EC570000

SWINGARM

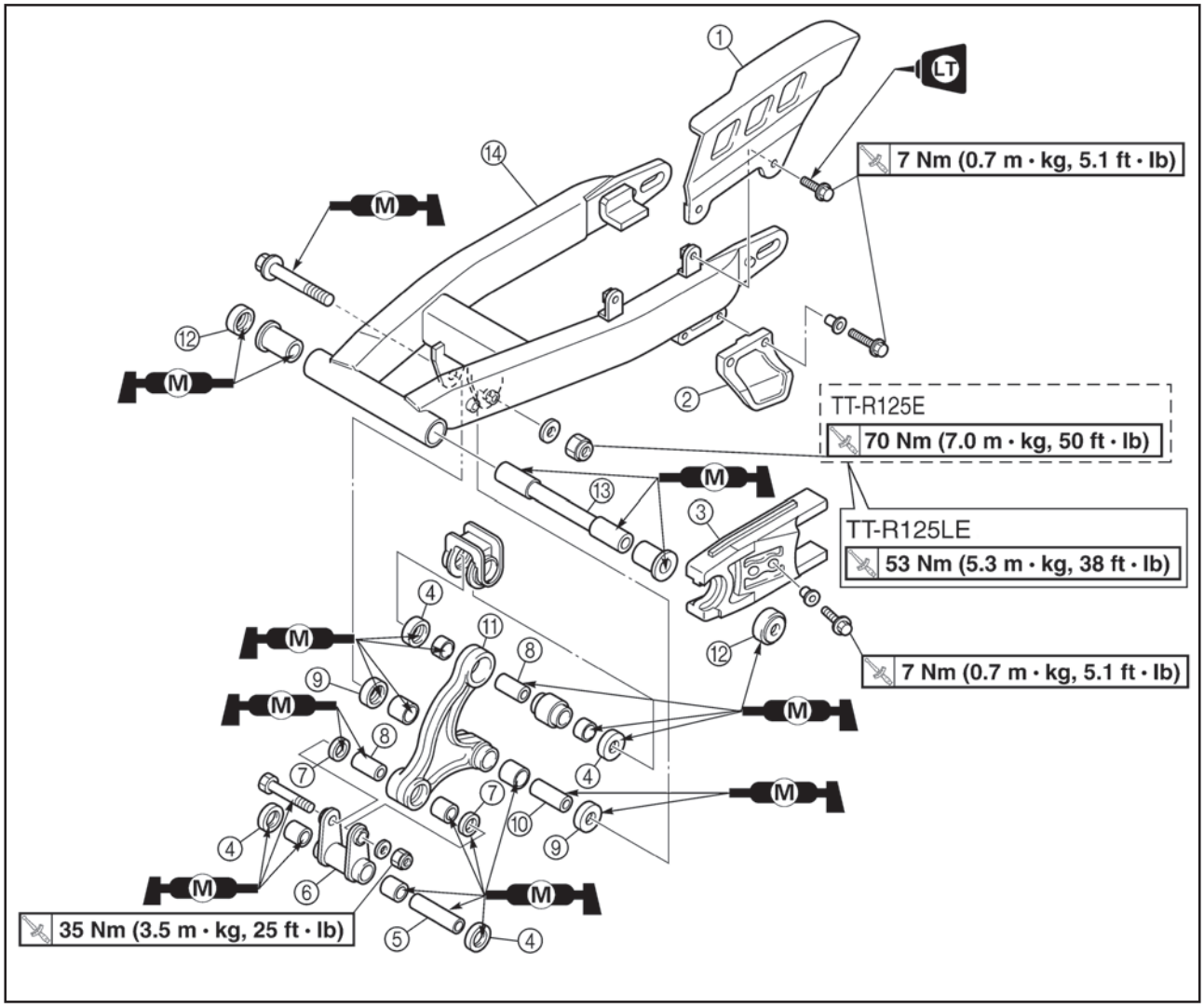


Extent of removal: ① Swingarm removal

Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**SWINGARM REMOVAL** Hold the machine by placing the suitable stand under the engine. Rear wheel		**⚠ WARNING** **Support the machine securely so there is no danger of it falling over.** Refer to "REAR WHEEL AND REAR BRAKE" section.
①	1 2 3 4 5 6	Drive chain tensioner (upper) Drive chain tensioner (lower) Bolt (connecting arm-frame) Bolt (rear shock absorber-relay arm) Pivot shaft Swingarm	1 1 1 1 1 1	Hold the swingarm.

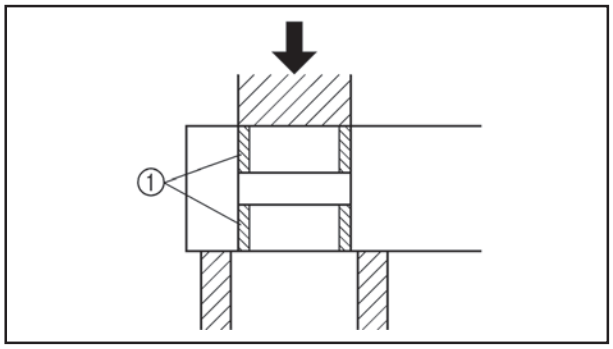
EC578000

SWINGARM DISASSEMBLY



Extent of removal: ① Swingarm disassembly ② Connecting arm removal and disassembly ③ Relay arm removal and disassembly

Extent of removal	Order	Part name	Q'ty	Remarks
		SWINGARM DISASSEMBLY		
①	1	Drive chain guard	1	
	2	Drive chain support	1	
	3	Drive chain guide	1	
	4	Dust cover	4	
②	5	Collar	1	
	6	Connecting arm	1	
	7	Oil seal	2	
	8	Collar	2	
③	9	Dust cover	2	
	10	Bushing	1	
	11	Relay arm	1	
	12	Dust cover	2	
	13	Bushing	1	
①	14	Swingarm	1	

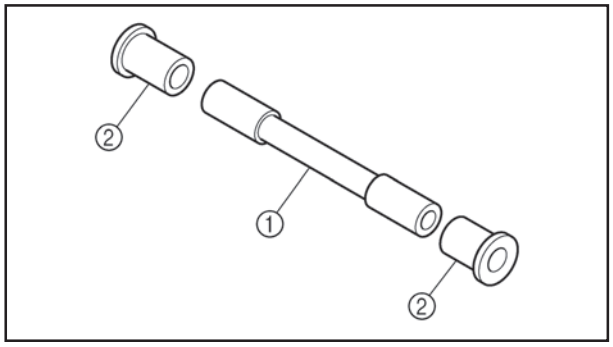


REMOVAL POINTS

Bushing

1. Remove:
   - Bushing ①

TIP
Remove the bushing by pressing.

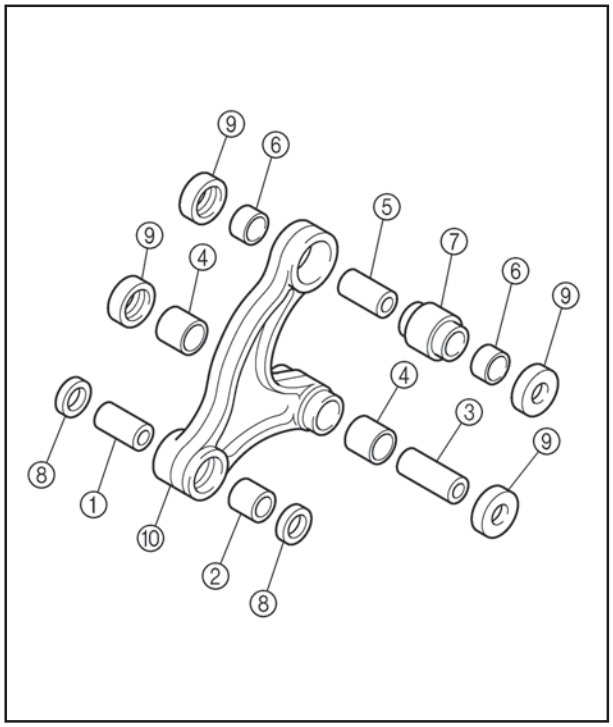


INSPECTION

Wash the bushings, collars, and covers in a solvent.

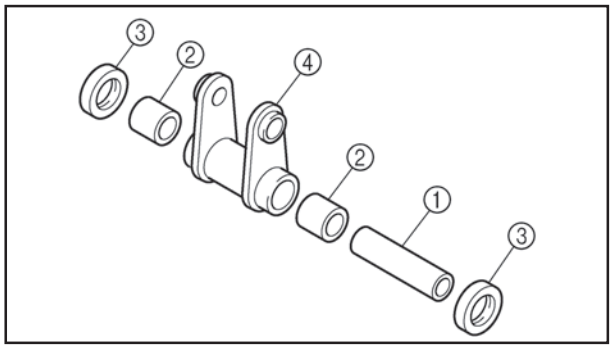
Swingarm

1. Inspect:
   - Bushing ①
   - Bushing ②
     Damage/pitting → Replace bushings as a set.
2. Inspect:
   - Dust cover
     Damage → Replace.
3. Inspect:
   - Swingarm
     Damage/bends/cracks → Replace.



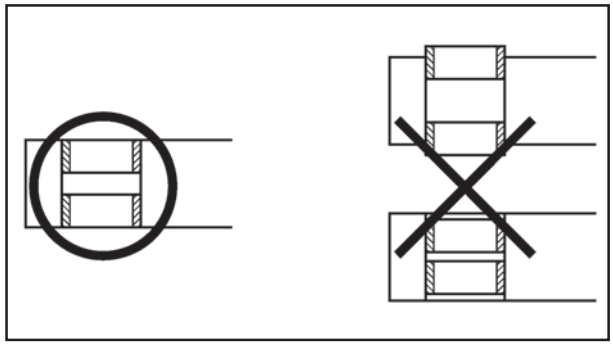
Relay arm

1. Inspect:
   - Collar ①
   - Bushing ②
     Damage/pitting → Replace collar and bushing as a set.
   - Bushing ③
   - Bushing ④
     Damage/pitting → Replace bushings as a set.
   - Collar ⑤
   - Bushing ⑥
   - Bushing ⑦
     Damage/pitting → Replace collars and bushing as a set.
2. Inspect:
   - Oil seal ⑧
   - Dust cover ⑨
     Damage → Replace.
3. Inspect:
   - Relay arm ⑩
     Damage/bends/cracks → Replace.



Connecting arm

1. Inspect:
   - Collar ①
   - Bushing ②
     Damage/pitting → Replace collar and bushings as a set.
2. Inspect:
   - Dust cover ③
     Damage → Replace.
3. Inspect:
   - Connecting arm ④
     Damage/bends/cracks → Replace.



EC575000

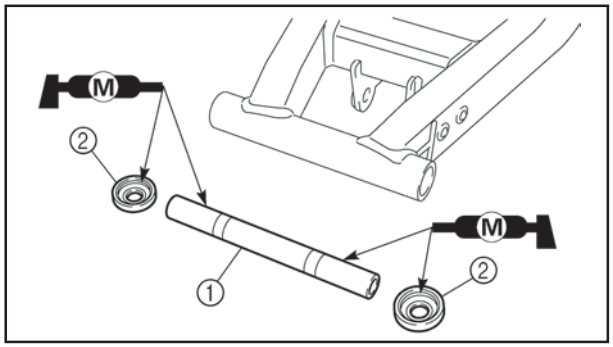
ASSEMBLY AND INSTALLATION

Bushing

1. Install:
   - Bushing

TIP

Make sure to press in the bushing so that they are flush with the surface of the connecting arm and relay arm.

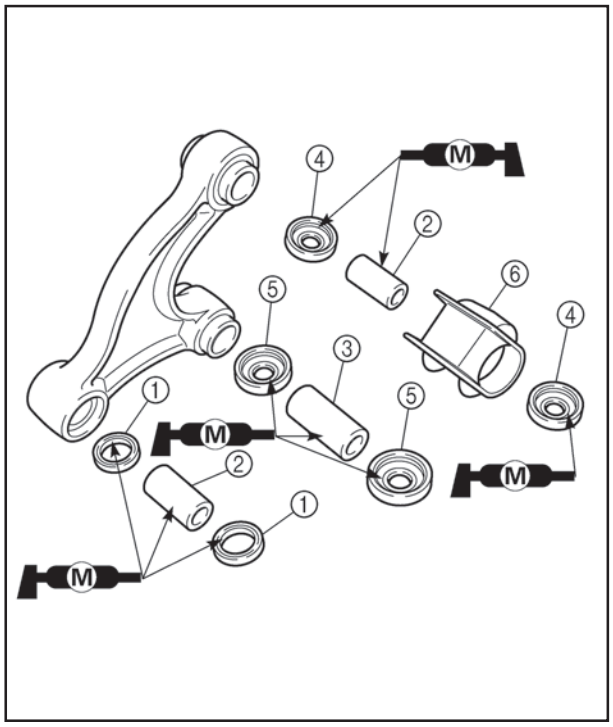


Swingarm assembly

1. Install:
   - Bushing ①
   - Dust covers ②
     On swingarm.

TIP

Apply the molybdenum disulfide grease on the bushing and dust cover lip.

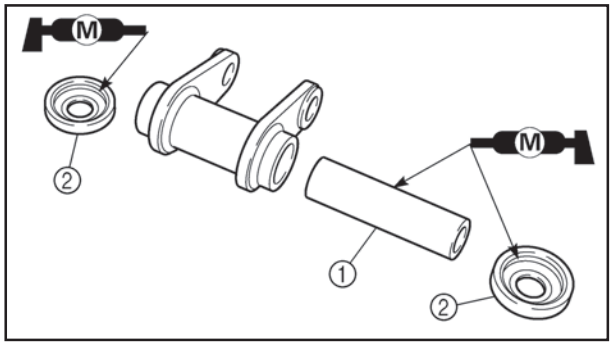


2. Install:
   - Oil seals ①
   - Collars ②
   - Bushing ③
   - Dust covers ④
   - Dust covers ⑤
   - Rubber boot ⑥

   On relay arm.

TIP

Apply the molybdenum disulfide grease on the bushing, collar, oil seal lip and dust cover lip.

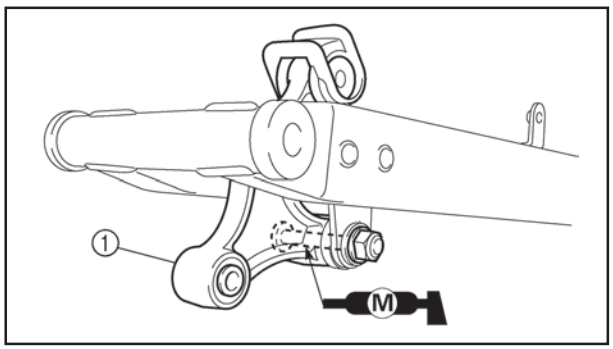


3. Install:
   - Collar ①
   - Dust covers ②

   On connecting arm.

TIP

Apply the molybdenum disulfide grease on the collar and dust cover lip.



4. Install:
   - Relay arm ①
   - Bolt (relay arm)
   - Plain washer
   - Nut (relay arm)

   TT-R125E

   70 Nm (7.0 m · kg, 50 ft · lb)

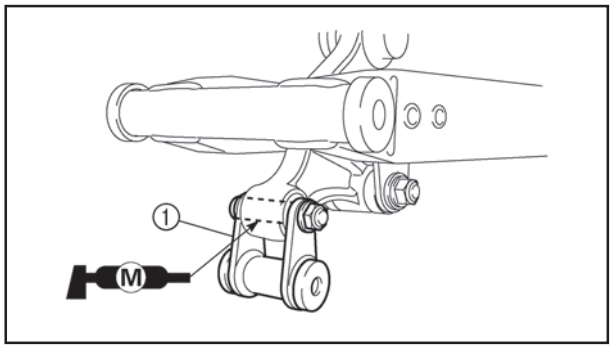
   TT-R125LE

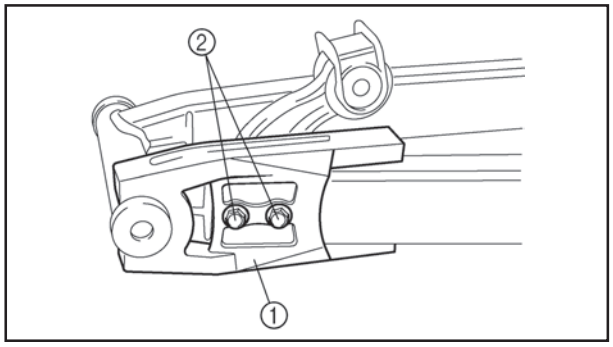
   53 Nm (5.3 m · kg, 38 ft · lb)

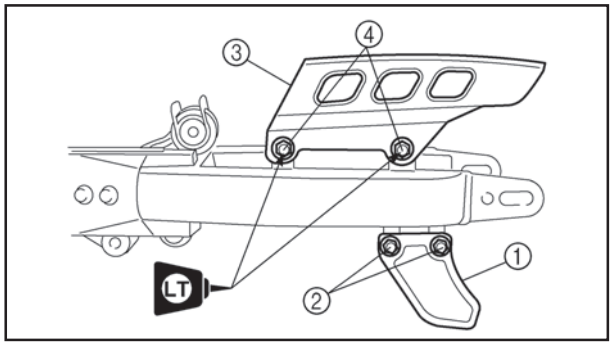
   On swingarm.

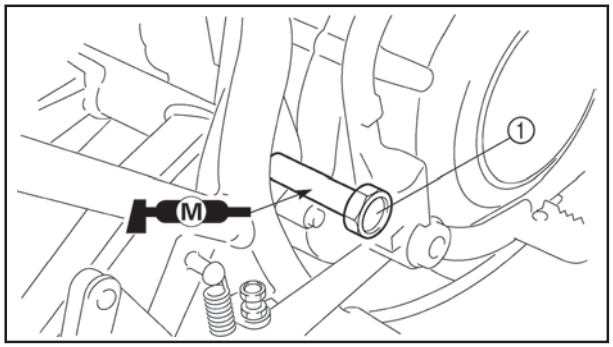
TIP

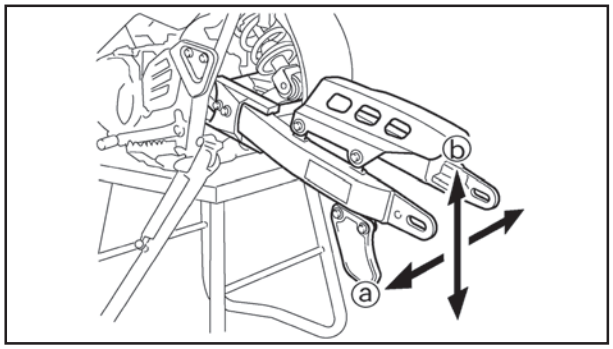
Apply the molybdenum disulfide grease on the bolt (relay arm).











5. Install:
   - Connecting arm ①
   - Bolt (connecting arm)
   - Plain washer
   - Nut (connecting arm)

35 Nm (3.5 m · kg, 25 ft · lb)

On relay arm.

TIP

Apply the molybdenum disulfide grease on the bolt (connecting arm).

6. Install:
   - Drive chain guide ①
   - Collars
   - Bolts (drive chain guide) ②

7 Nm (0.7 m · kg, 5.1 ft · lb)

7. Install:
   - Drive chain support ①
   - Collars
   - Bolts (drive chain support) ②

7 Nm (0.7 m · kg, 5.1 ft · lb)

   - Drive chain guard ③
   - Bolts (drive chain guide) ④

7 Nm (0.7 m · kg, 5.1 ft · lb)

Installation

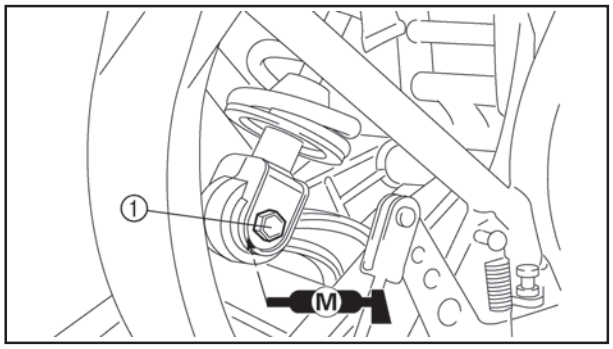
1. Install:
   - Swingarm
   - Pivot shaft ①
   - Plain washer
   - Nut (pivot shaft)

53 Nm (5.3 m · kg, 38 ft · lb)

TIP

Apply the molybdenum disulfide grease on the pivot shaft.

2. Check:
   - Swingarm side play ⓐ
     Free play exists → Replace bushing.
   - Swingarm up and down movement ⓑ
     Unsmooth movement/binding/rough spots → Grease or replace bushing.

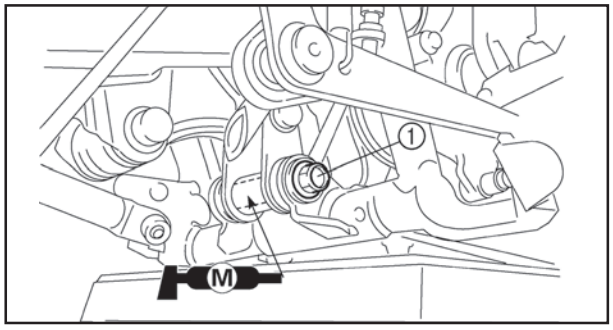


3. Install:
   - Bolt (rear shock absorber - relay arm) ①
   - Plain washer
   - Nut (rear shock absorber-relay arm)

35 Nm (3.5 m · kg, 25 ft · lb)

TIP

Apply the molybdenum disulfide grease on the bolt (rear shock absorber - relay arm).

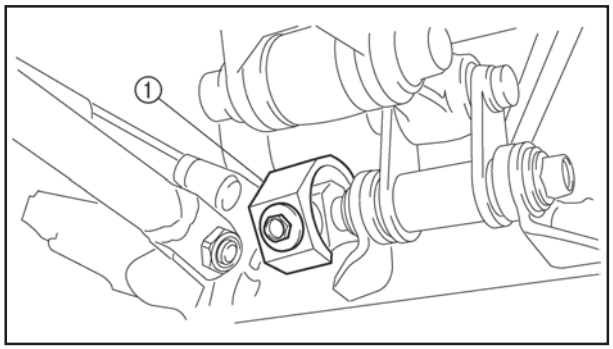


4. Install:
   - Bolt (connecting arm-frame) ①
   - Plain washer
   - Nut (connecting arm-frame)

35 Nm (3.5 m · kg, 25 ft · lb)

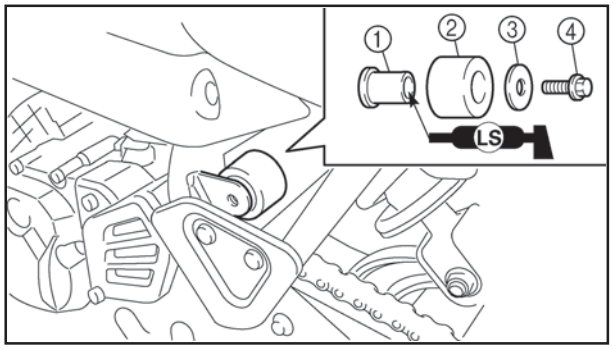
TIP

Apply the molybdenum disulfide grease on the bolt (connecting arm - frame).



5. Install:
   - Drive chain tensioner (lower) ①
   - Collar
   - Bolt [drive chain tensioner (lower)]

7 Nm (0.7 m · kg, 5.1 ft · lb)



6. Install:
   - Bushing ①
   - Drive chain tensioner (upper) ②
   - Plain washer ③
   - Bolt [drive chain tensioner (upper)] ④

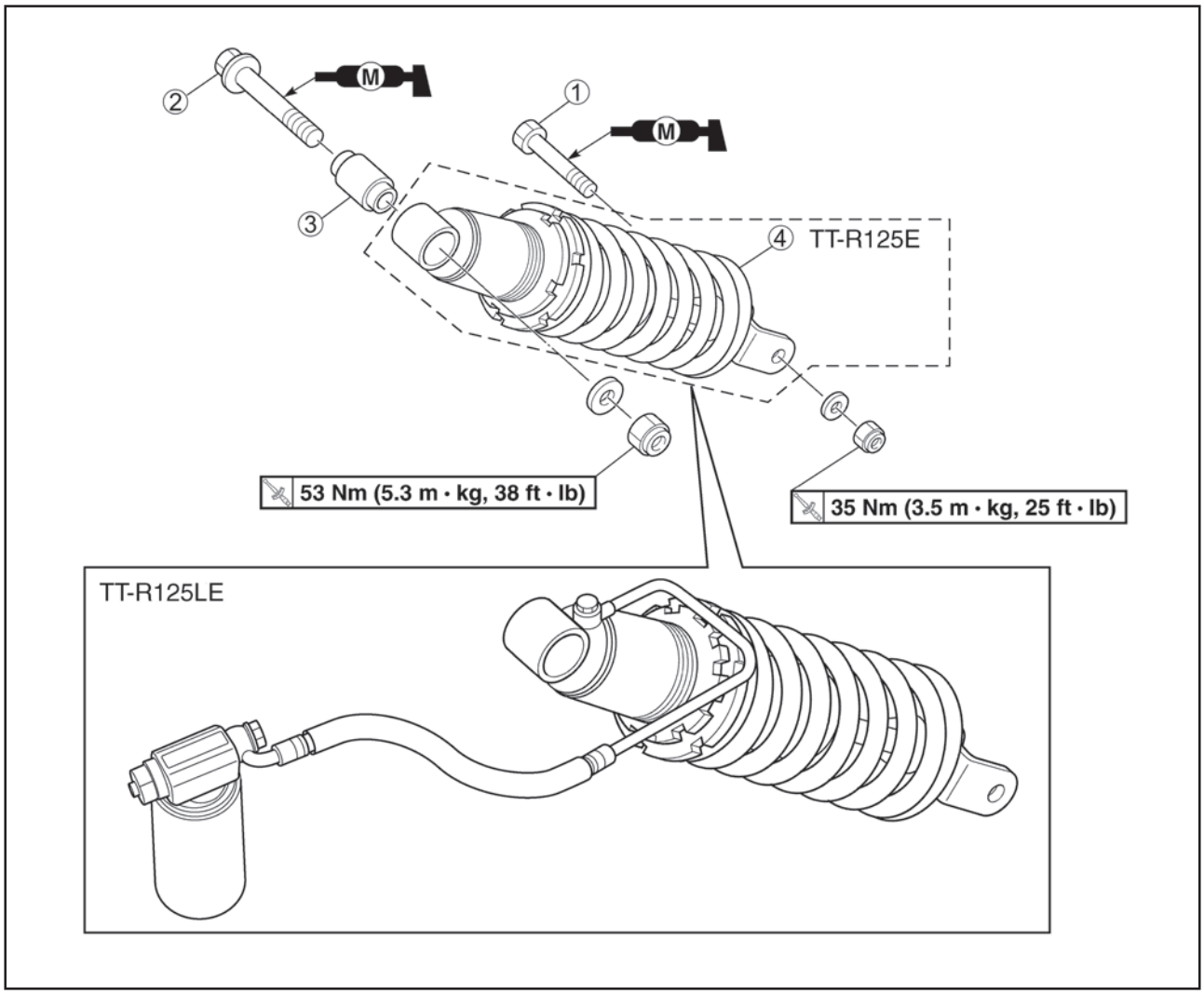
23 Nm (2.3 m · kg, 17 ft · lb)

TIP

Apply the lithium soap base grease on the bushing inner surface.

EC580000

REAR SHOCK ABSORBER ASSEMBLY



Extent of removal: ① Rear shock absorber assembly removal

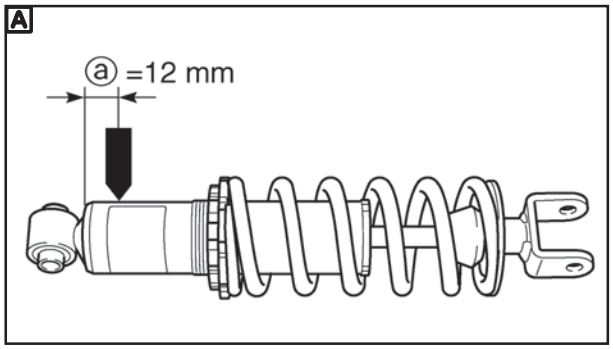
Extent of removal	Order	Part name	Q'ty	Remarks
Preparation for removal		**REAR SHOCK ABSORBER ASSEMBLY REMOVAL** Hold the machine by placing the suitable stand under the engine. Seat and side covers		**⚠ WARNING** **Support the machine securely so there is no danger of it falling over.** Refer to "SEAT, FUEL TANK AND SIDE COVERS" section in the CHAPTER 4.
①	1	Bolt (rear shock absorber assembly-relay arm)	1	Hold the swingarm.
	2	Bolt (rear shock absorber assembly-frame)	1	
	3	Bushing	1	Refer to "REMOVAL POINTS".
	4	Rear shock absorber assembly	1	

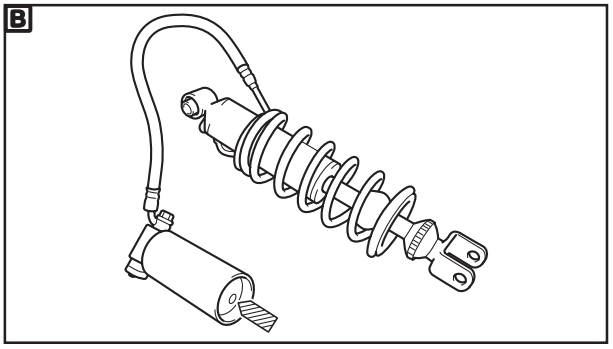
HANDLING NOTE

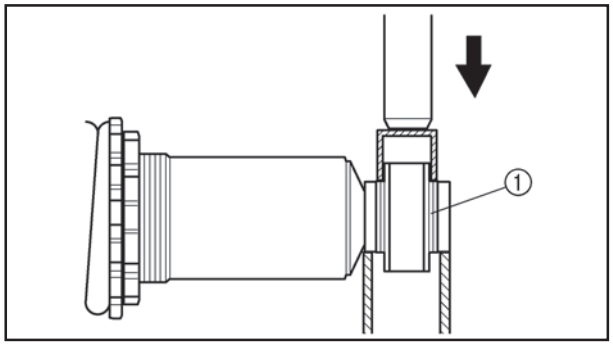
⚠ WARNING

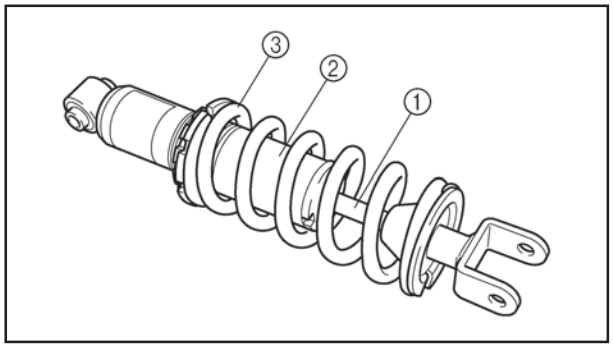
This rear shock absorber contains high-pressure nitrogen gas. To prevent the danger of explosion, read and understand the following information before handling the shock absorber.
The manufacturer can not be held responsible for property damage or personal injury that may result from improper handling.

1. **Never tamper or attempt to open the rear shock absorber.**
2. **Never throw the rear shock absorber into an open flame or other high heat. The rear shock absorber may explode as a result of nitrogen gas expansion and/or damage to the hose.**
3. **Be careful not to damage any part of the rear shock absorber. A damaged rear shock absorber will impair the damping performance or cause a malfunction.**
4. **Take care not to scratch the contact surface of the piston rod with the cylinder; or oil could leak out.**
5. **When scrapping the rear shock absorber, follow the instruction on disposal.**









NOTES ON DISPOSAL (YAMAHA DEALERS ONLY)

Gas pressure must be released before disposing of a rear shock absorber and gas cylinder.

TT-R125E

To release the gas pressure, drill a 2 ~ 3 mm (0.08 ~ 0.12 in) hole through the gas cylinder at a point ⓐ from its end as shown.

⚠ WARNING

Wear eye protection to prevent eye damage from released gas or metal chips.

TT-R125LE

To release the gas pressure, press on the gas valve needle with a suitable tool as shown, until all of the gas is released (the hissing has stopped).
A TT-R125E
B TT-R125LE

EC583000

REMOVAL POINTS

Bushing

1. Remove:
   - Bushing ①

TIP

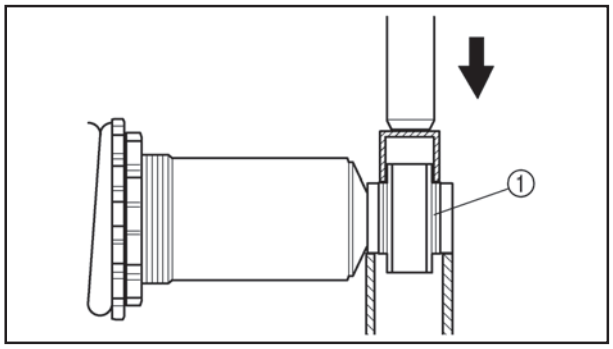
Remove the bushing by pressing.

EC584000

INSPECTION

Rear shock absorber assembly

1. Inspect:
   - Damper rod ①
     Bends/damage → Replace rear shock absorber assembly.
   - Shock absorber ②
     Oil leaks → Replace rear shock absorber assembly.
     Gas leaks → Replace rear shock absorber assembly.
   - Spring ③
     Damage → Replace rear shock absorber assembly.
     Fatigue → Replace rear shock absorber assembly.
     Move spring up and down.



EC585000

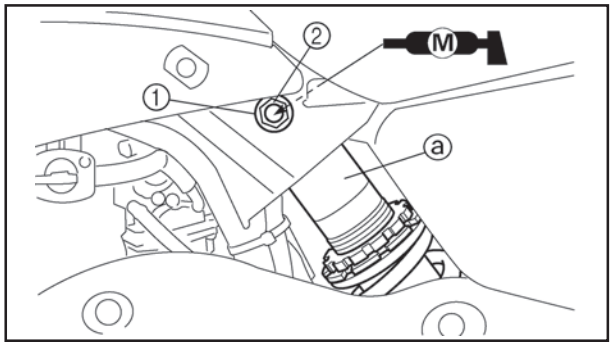
ASSEMBLY AND INSTALLATION

Bushing

1. Install:
   - Bushing ①

TIP

Install the bushing by pressing.



Installation

1. Install:
   - Rear shock absorber assembly
     On frame.

TIP

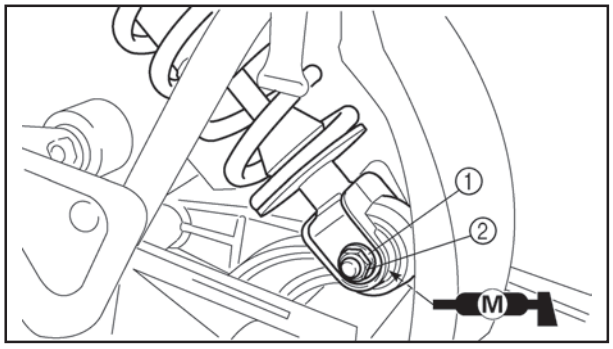
Install the rear shock absorber assembly with its warning label ⓐ facing left side of the machine (for TT-R125E).

2. Install:
   - Bolt (rear shock absorber assembly - frame)
   - Plain washer ①
   - Nut (rear shock absorber assembly - frame) ②

53 Nm (5.3 m · kg, 38 ft · lb)

TIP

Apply the molybdenum disulfide grease on the bolt (rear shock absorber assembly - frame).

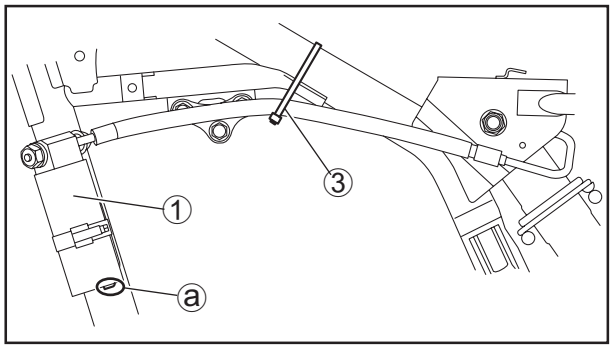


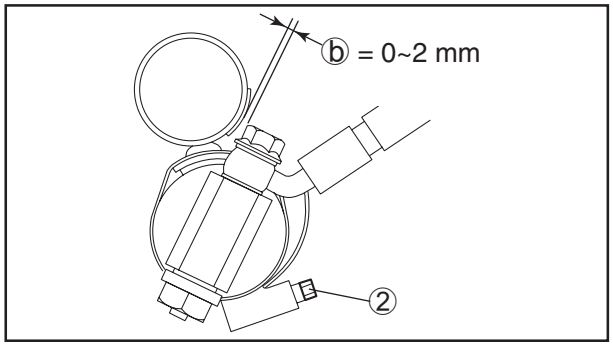
3. Install:
   - Bolt (rear shock absorber assembly - relay arm)
   - Plain washer ①
   - Nut (rear shock absorber assembly - relay arm) ②

35 Nm (3.5 m · kg, 25 ft · lb)

TIP

Apply the molybdenum disulfide grease on the bolt (rear shock absorber assembly - relay arm).





4. Install:
   TT-R125LE
   - Rear shock absorber assembly sub-tank ①
   - Screw clamp ②

     4 Nm (0.4 m · kg, 2.9 ft · lb)
   - Locking tie ③

TIP

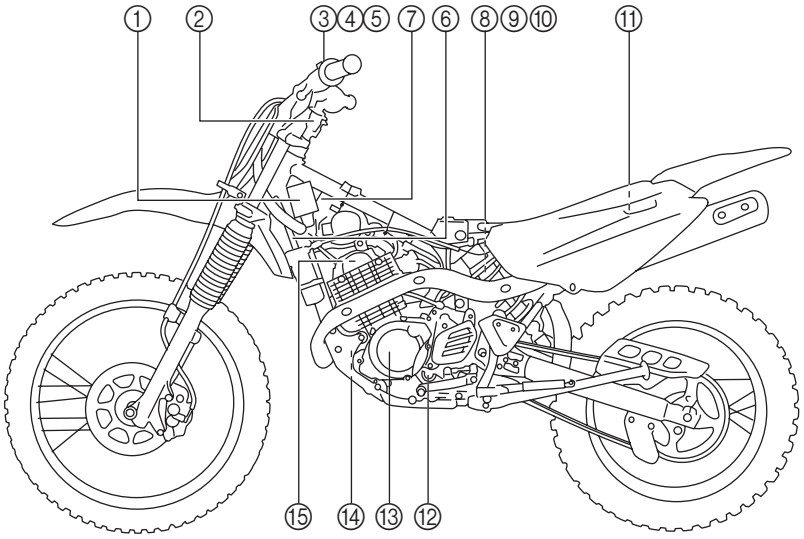
- Install the rear shock absorber assembly sub-tank so that its bottom portion directs as shown and lightly touches the projection ⓐ on the frame.
- Install the rear shock absorber assembly sub-tank with a clearance ⓑ between the sub-tank and frame.
- Fasten the sub-tank hose with the locking tie. Refer to “CABLE ROUTING DIAGRAM” section in the CHAPTER 2.

EC600000
ELECTRICAL
EC610000
ELECTRICAL COMPONENTS AND WIRING DIAGRAM
EC611000
ELECTRICAL COMPONENTS

① CDI unit
② Main switch
③ Start switch
④ Clutch switch
⑤ Engine stop switch
⑥ Starting circuit cut-off relay
⑦ Ignition coil
⑧ Battery
⑨ Starter relay
⑩ Fuse
⑪ Rectifier/regulator
⑫ Neutral switch
⑬ CDI magneto
⑭ Starter motor
⑮ Spark plug

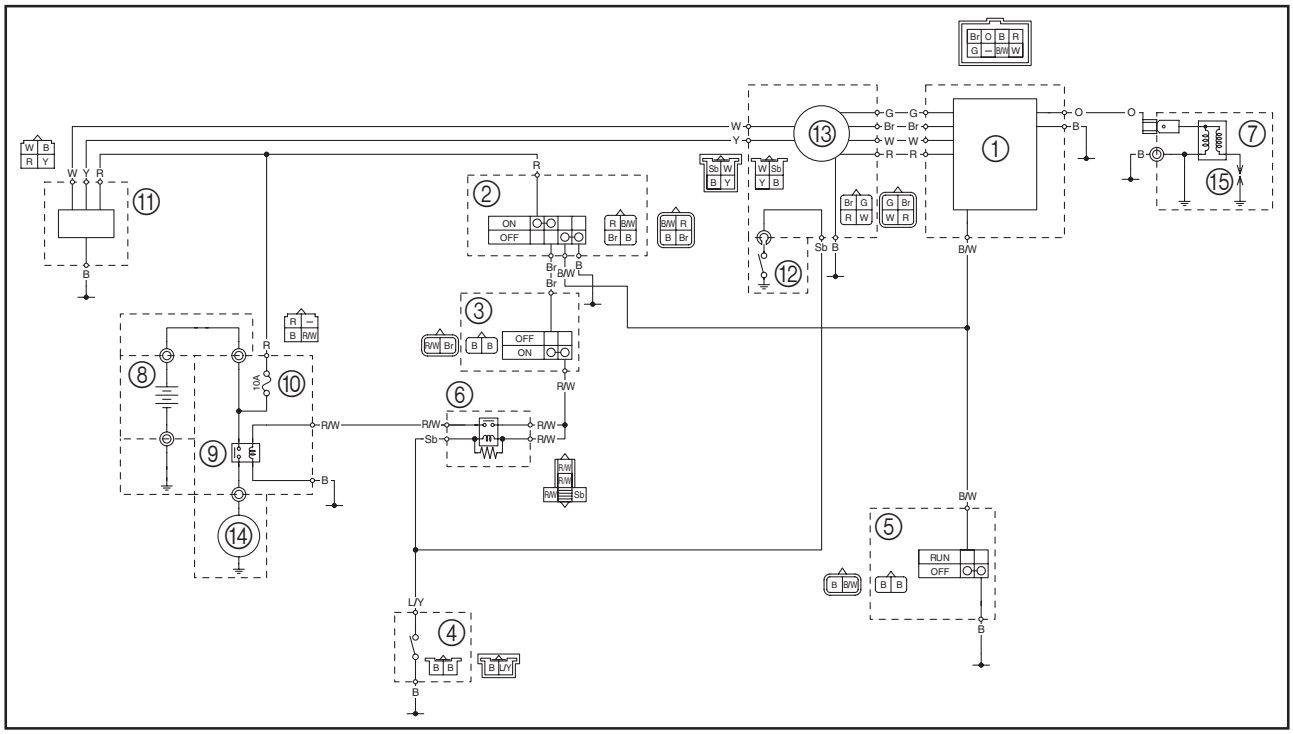
COLOR CODE

B	Black	W	White
Br	Brown	Y	Yellow
G	Green	B/W	Black/White
O	Orange	L/Y	Blue/Yellow
R	Red	R/W	Red/White
Sb	Sky blue		



The illustration shows the TT-R125LE

EC612000
WIRING DIAGRAM

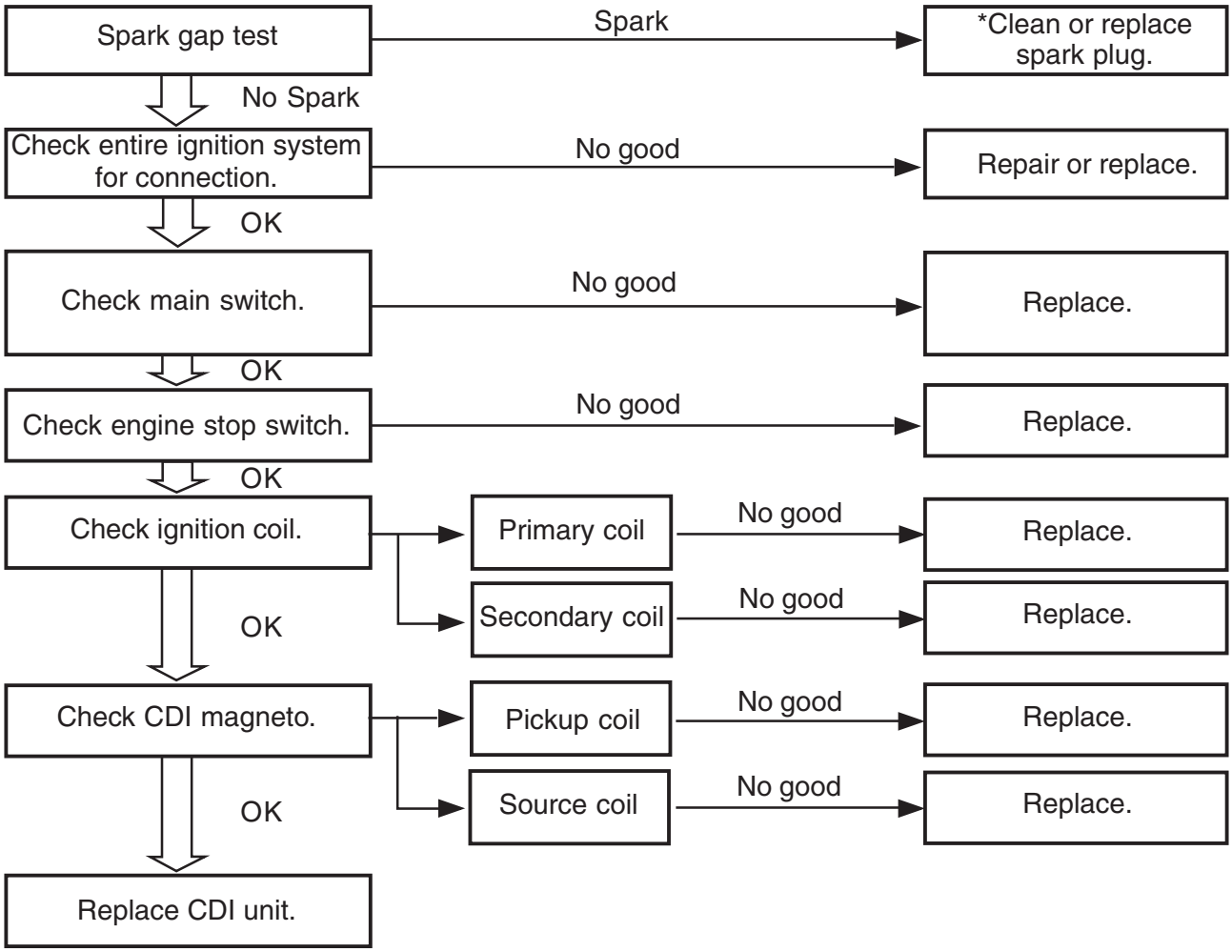


EC620000

IGNITION SYSTEM

INSPECTION STEPS

Use the following steps for checking the possibility of the malfunctioning engine being attributable to ignition system failure and for checking the spark plug which will not spark.



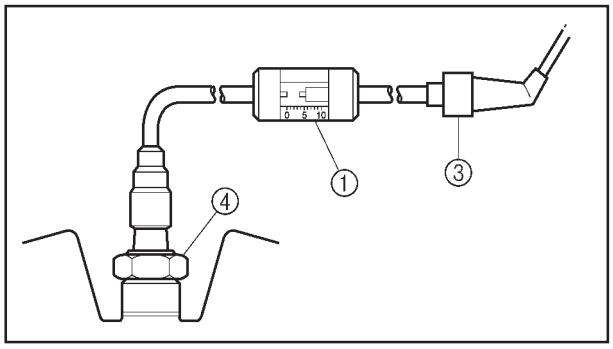
***marked: Only when the ignition checker is used.**

TIP

- Remove the following parts before inspection.
  1) Seat
  2) Fuel tank
- Use the following special tools in this inspection:

Dynamic spark tester:
YM-34487
Ignition checker:
90890-06754

Pocket tester:
YU-3112-C/90890-03112



EC622001

SPARK GAP TEST

1. Disconnect the spark plug cap from spark plug.
2. Connect the dynamic spark tester ① (ignition checker ②) as shown.
   - Spark plug cap ③
   - Spark plug ④
3. Kick the kick starter.
4. Check the ignition spark gap.
5. Start engine, and increase spark gap until misfire occurs.

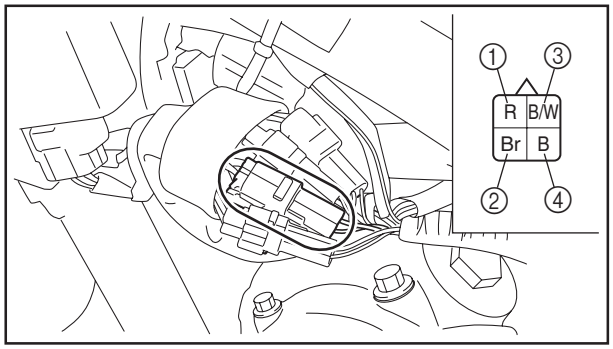
Minimum spark gap:
6.0 mm (0.24 in)

EC624000

COUPLERS AND LEADS CONNECTION

INSPECTION

1. Check:
   - Couplers and leads connection
     Rust/dust/looseness/short-circuit → Repair or replace.



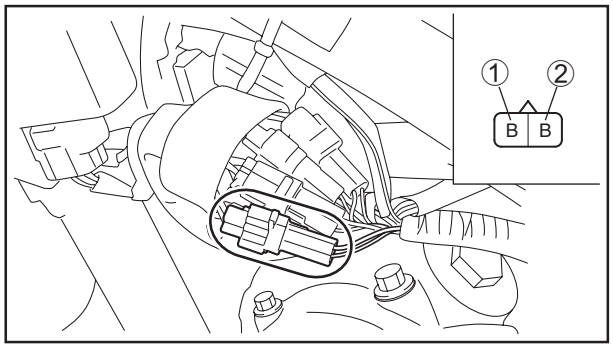
MAIN SWITCH INSPECTION

1. Inspect:
   - Main switch continuity
     Check for continuity as follows:

Tester (+) → **Red lead** ① **Tester (-)** → **Brown lead** ②	**Continuous**
Tester (+) → **Black/White lead** ③ **Tester (-)** → **Black lead** ④	**Continuous**

		R ①	Br ②	B/W ③	B ④	Tester selector position
	ON	○—○				Ω x 1
	OFF			○—○		

Incorrect continuity → Replace.



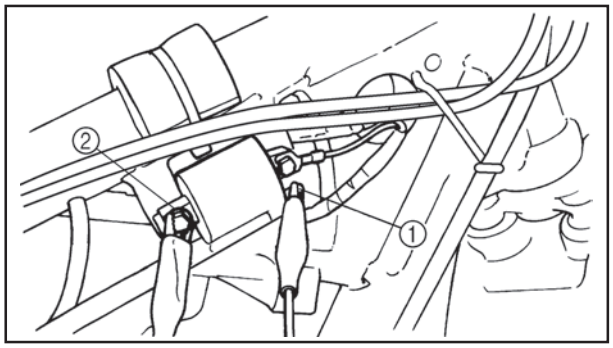
ENGINE STOP SWITCH INSPECTION

1. Inspect:
   - Engine stop switch conduct

Tester (+) lead	**→ Black lead ①**
Tester (–) lead	**→ Black lead ②**

		B ①	B ②	Tester selector position
	PUSH IN	○—○		**Ω x 1**
	FREE			

No continuous while being pushed → Replace.
Continuous while being freed → Replace.



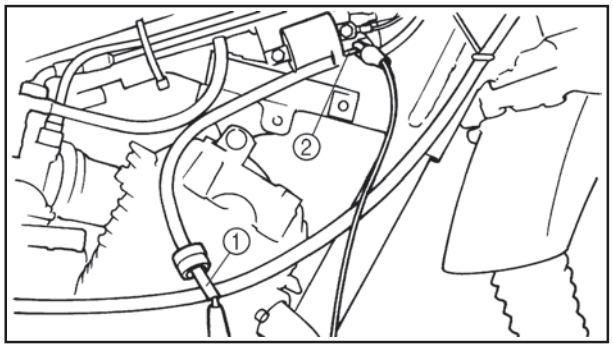
EC626002

IGNITION COIL INSPECTION

1. Inspect:
   - Primary coil resistance
     Out of specification → Replace.

Tester (+) lead	**→ Orange lead ①**
Tester (–) lead	**→ Black lead ②**

	Primary coil resistance	Tester selector position
	0.18 ~ 0.28 Ω at 20 °C (68 °F)	**Ω x 1**



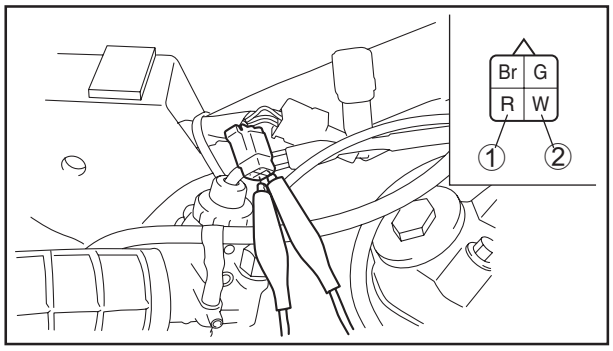
2. Inspect:
   - Secondary coil resistance
     Out of specification → Replace.

Tester (+) lead	**→ Spark plug lead ①**
Tester (–) lead	**→ Orange lead ②**

	Secondary coil resistance	Tester selector position
	6.3 ~ 9.5 kΩ at 20 °C (68 °F)	**kΩ x 1**

TIP

When inspecting the secondary coil resistance, remove the spark plug cap.

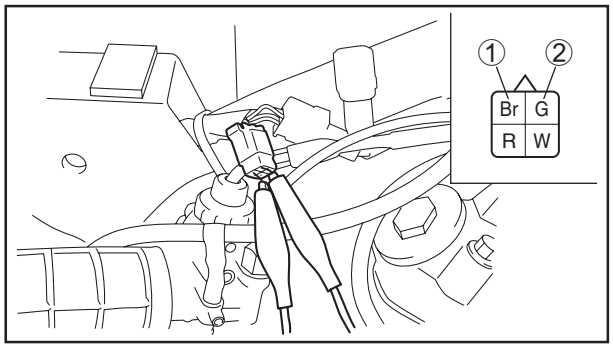


CDI MAGNETO INSPECTION

1. Inspect:
   - Pickup coil resistance
     Out of specification → Replace.

Tester (+) lead	**→ Red lead ①**
Tester (–) lead	**→ White lead ②**

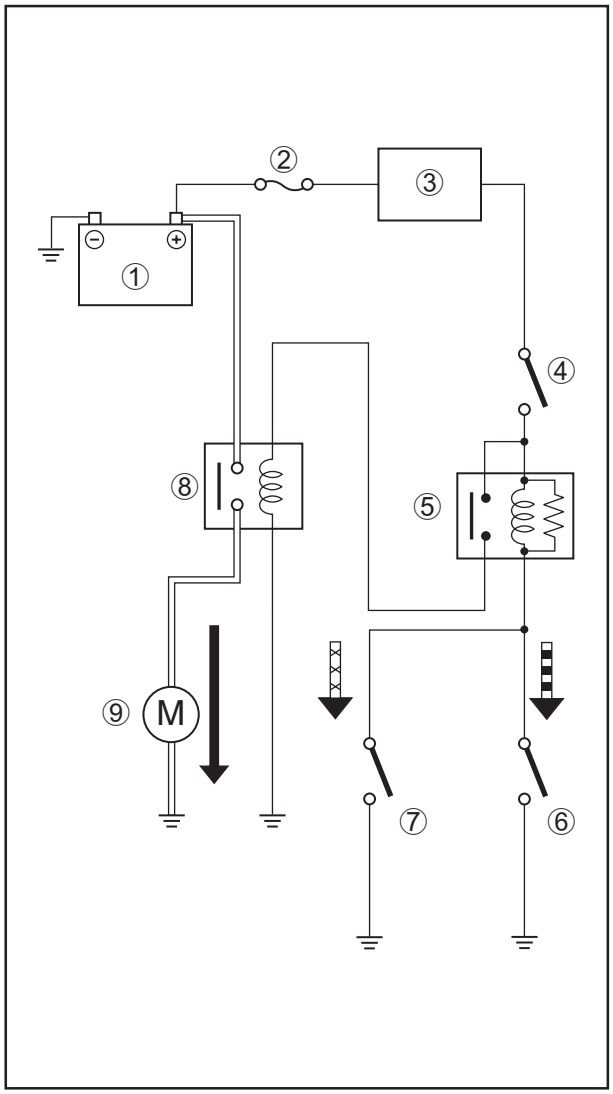
	Pickup coil resistance	Tester selector position
	248 ~ 372 Ω at 20 °C (68 °F)	**Ω x 100**



2. Inspect:
   - Source coil resistance
     Out of specification → Replace.

Tester (+) lead → Brown lead ①
Tester (–) lead → Green lead ②

	Source coil resistance	Tester selector position
	688 ~ 1,032 Ω at 20 °C (68 °F)	Ω x 100



ELECTRIC STARTING SYSTEM

STARTING CIRCUIT CUT-OFF SYSTEM OPERATION

If the main switch is set to "ON", the starter motor can only operate if at least one of the following conditions is met:

- The transmission is in neutral (the neutral switch is closed).
- The clutch lever is pulled to the handlebar (the clutch switch is closed).

The starting circuit cut-off relay prevents the starter motor from operating when neither of these conditions has been met. In this instance, the starting circuit cut-off relay is open so current cannot reach the starter motor. When at least one of the above conditions has been met the starting circuit cut-off relay is closed and the engine can be started by pressing the start switch.

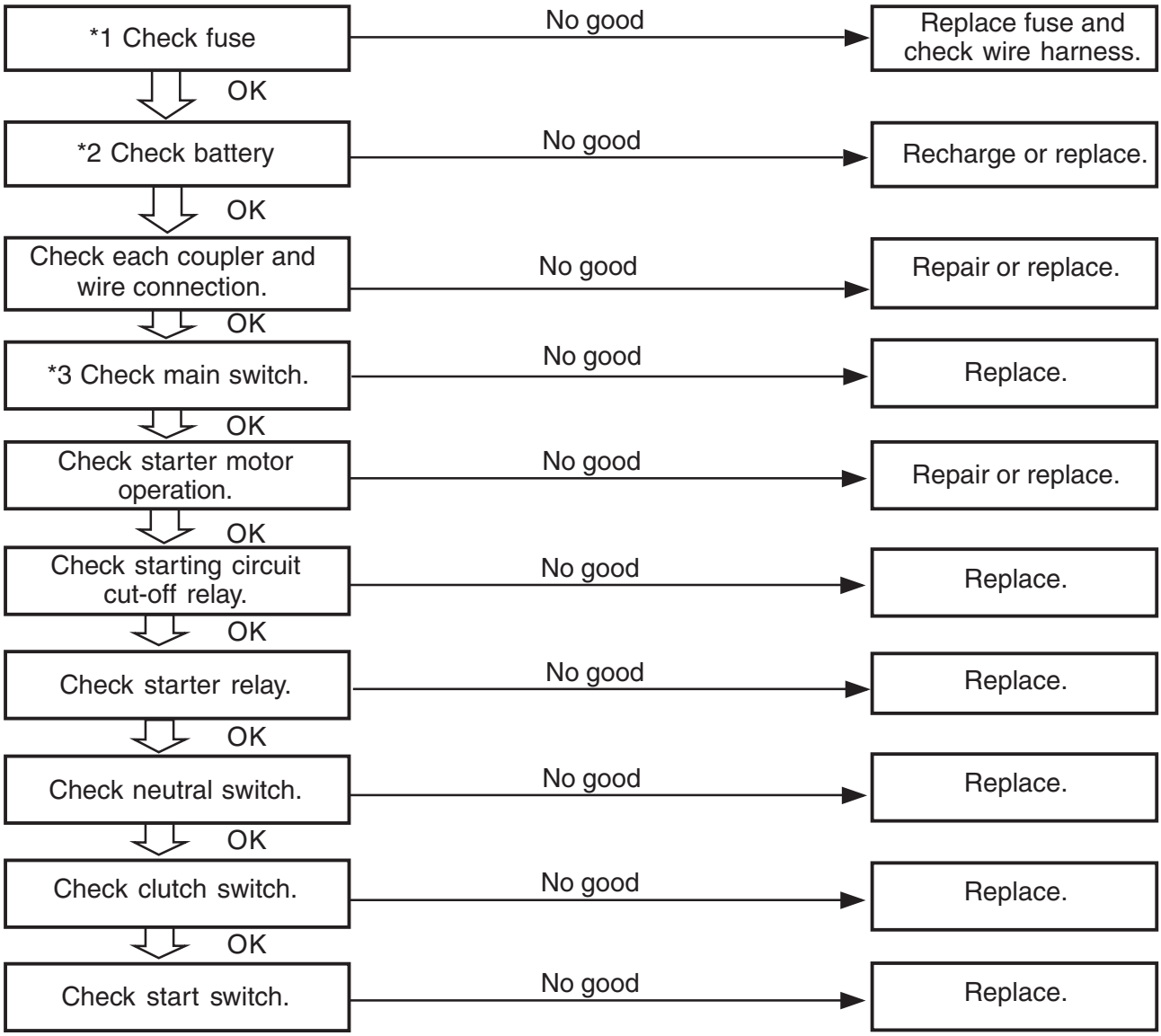
WHEN THE TRANSMISSION IS IN NEUTRAL

WHEN THE CLUTCH LEVER IS PULLED TO THE HANDLEBAR

① Battery
② Main fuse
③ Main switch
④ Start switch
⑤ Starting circuit cut-off relay
⑥ Neutral switch
⑦ Clutch switch
⑧ Starter relay
⑨ Starter motor

INSPECTION STEPS

If the starter motor will not operate, use the following inspection steps.



***1 marked: Refer to "FUSE INSPECTION" section in the CHAPTER 3.**
***2 marked: Refer to "BATTERY INSPECTION AND CHARGING" section in the CHAPTER 3.**
***3 marked: Refer to "MAIN SWITCH INSPECTION" section.**

TIP

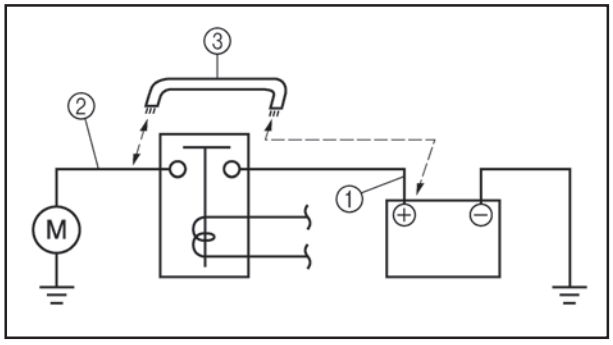
- Remove the following parts before inspection.
  1) Seat
  2) Rear fender
  3) Fuel tank
- Use 12 V battery in this inspection.
- Use the following special tools in this inspection:

	Pocket tester: YU-3112-C/90890-03112

EC624000

COUPLERS AND LEADS CONNECTION INSPECTION

1. Check:
   - Couplers and leads connection
     Rust/dust/looseness/short-circuit → Repair or replace.

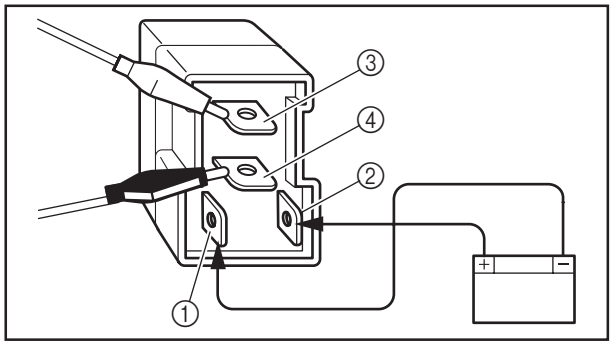


STARTER MOTOR OPERATION

1. Connect the positive battery terminal ① and starter motor lead ② with a jumper lead ③.
   Not operate → Repair or replace the starter motor.

⚠ WARNING

- **A wire that is used as a jumper lead must have at least the same capacity or more as that of the a battery lead, otherwise the jumper lead may burn.**
- **This check is likely to produce sparks, therefore make sure nothing flammable is in the vicinity.**

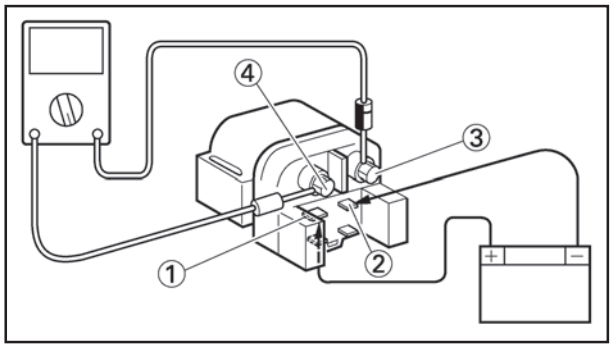


STARTING CIRCUIT CUT-OFF RELAY INSPECTION

1. Remove:
   - Starting circuit cut-off relay
2. Inspect:
   - Starting circuit cut-off relay conduct.
     Use 12 V battery.

Battery (+) lead	→	**Sky blue lead ①**
Battery (-) lead	→	**Red/White lead ②**
Tester (+) lead	→	**Red/White lead ③**
Tester (-) lead	→	**Red/White lead ④**

		R/W ③	R/W ④	Tester selector position
	Connected to battery	○—○		Ω x 1
	Not connected to battery			



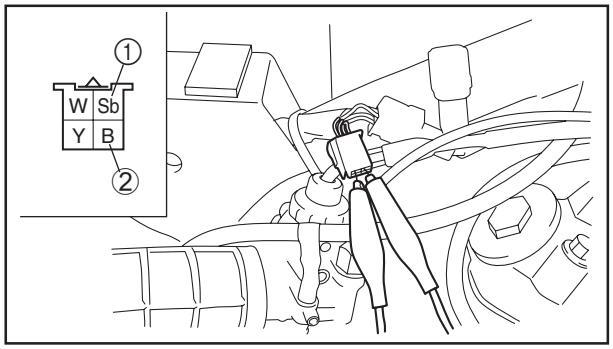
STARTER RELAY INSPECTION

1. Remove:
   - Starter relay
2. Inspect:
   - Starter relay conduct
     Use 12 V battery.

Battery (+) lead	→	**Starter relay terminal ①**
Battery (–) lead	→	**Starter relay terminal ②**
Tester (+) lead	→	**Starter relay terminal ③**
Tester (–) lead	→	**Starter relay terminal ④**

	Terminal ③	Terminal ④	Tester selector position
Connected to battery	○—○		**Ω x 1**
Not connected to battery			

Continuous while not connected to the battery → Replace.
Not continuous while connected to the battery → Replace.



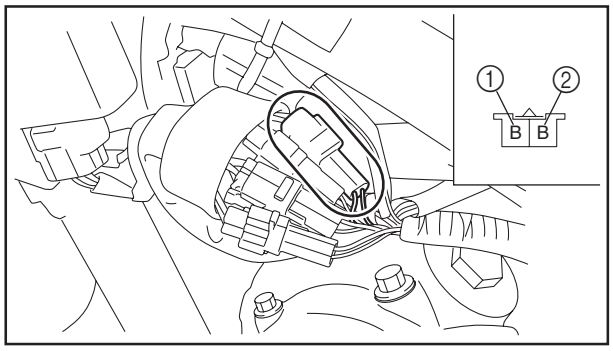
NEUTRAL SWITCH INSPECTION

1. Inspect:
   - Neutral switch conduct

Tester (+) lead	→	**Sky blue lead ①**
Tester (–) lead	→	**Black lead ②**

	Sb ①	B ②	Tester selector position
NEUTRAL	○—○		**Ω x 1**
IN GEAR			

No continuous while in neutral → Replace.
Continuous while in gear → Replace.



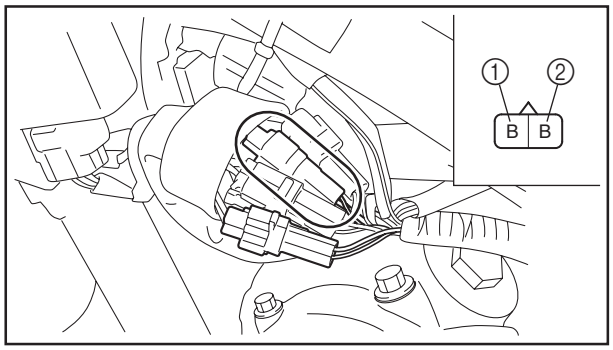
CLUTCH SWITCH INSPECTION

1. Inspect:
   - Clutch switch continuity

Tester (+) lead → Black lead ①
Tester (–) lead → Black lead ②

		B ①	B ②	Tester selector position
	PULL	○—○		Ω x 1
	FREE			

No continuous while being pulled → Replace.
Continuous while being freed → Replace.



START SWITCH INSPECTION

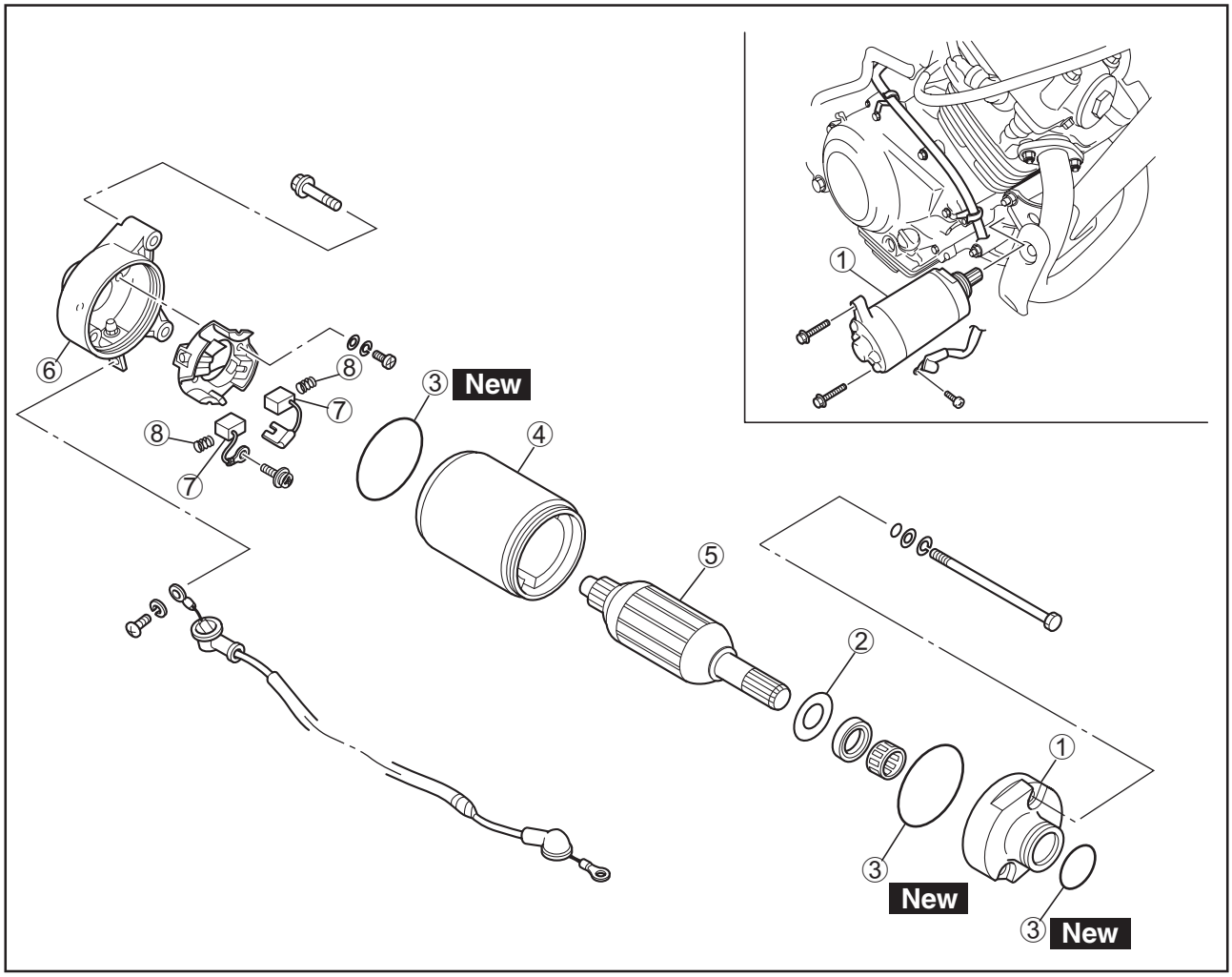
1. Inspect:
   - Start switch continuity

Tester (+) lead → Black lead ①
Tester (–) lead → Black lead ②

		B ①	B ②	Tester selector position
	PUSH IN	○—○		Ω x 1
	FREE			

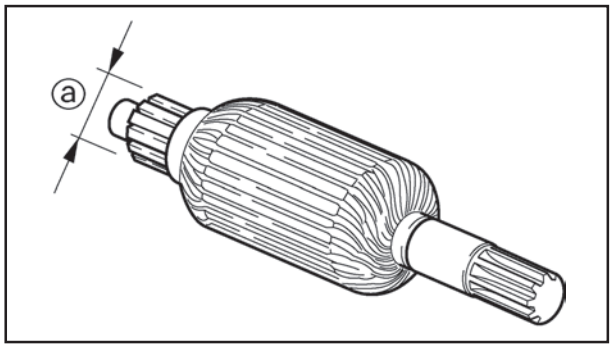
No continuous while being pushed → Replace.
Continuous while being freed → Replace.

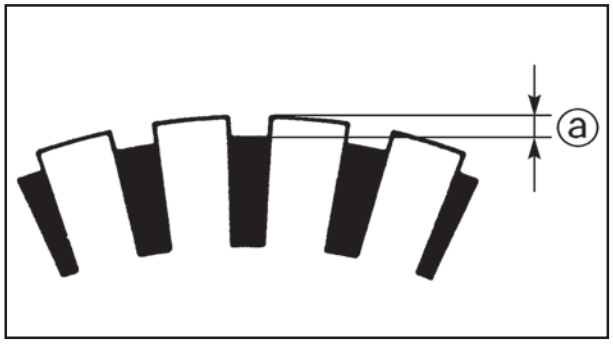
STARTER MOTOR



Extent of removal: ① Starter motor disassembly

Extent of removal	Order	Part name	Q'ty	Remarks
		STARTER MOTOR REMOVAL		
Preparation for removal		Drain the engine oil.		Refer to "ENGINE OIL REPLACEMENT" section in the CHAPTER 3.
	1	Starter motor.	1	
		STARTER MOTOR DISASSEMBLY		
①	1	Starter motor front cover	1	
	2	Plain washer	1	
	3	O-ring	3	
	4	Starter motor yoke	1	
	5	Armature assembly	1	
	6	Starter motor rear cover	1	
	7	Brush	2	
	8	Brush spring	2	





INSPECTION AND REPAIR

1. Inspect:
   - Commutator

   Dirt → Clean it with #600 grit sandpaper.
2. Measure:
   - Commutator diameter ⓐ

Commutator wear limit:
21.0 mm (0.83 in)

Out of specification → Replace the starter motor.

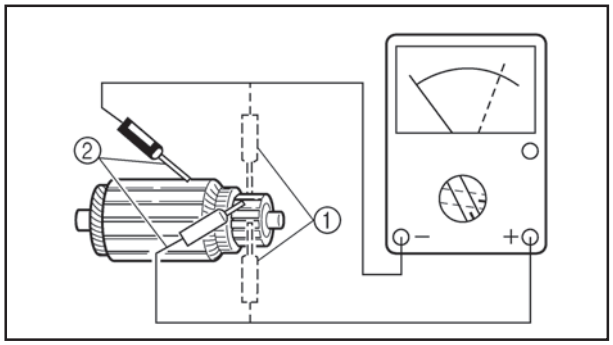
3. Measure:
   - Mica undercut ⓐ

Mica undercut:
1.5 mm (0.06 in)

Out of specification → Scrape the mica to the proper value (a hacksaw blade can be ground to fit).

TIP

The mica insulation of the commutator must be undercut to ensure proper operation of commutator.



4. Measure:
   - Armature assembly resistance (commutator and insulation)

   Out of specification → Replace the starter motor.

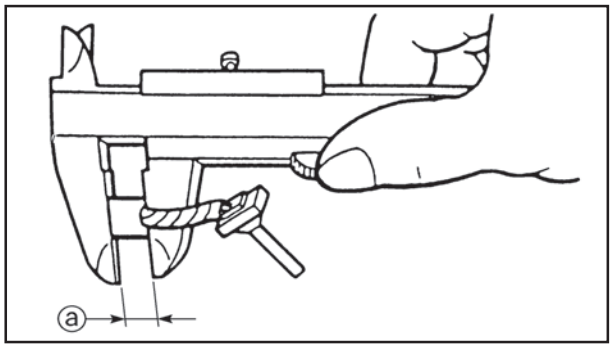
Measurement steps:

- Measure the armature assembly resistances with the pocket tester.

Pocket tester:
YU-3112-C/90890-03112

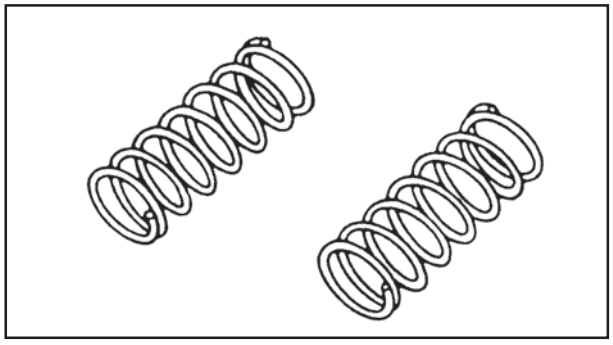
Armature coil:
Commutator resistance ①
0.017 ~ 0.021 Ω at 20 °C (68 °F)
Insulation resistance ②
Above 1 MΩ at 20 °C (68 °F)

- If any resistance is out of specification, replace the starter motor.



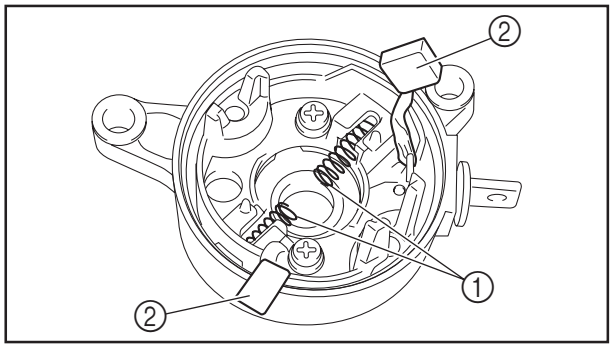
5. Measure:
   - Brush length ⓐ
     Out of specification → Replace.

Brush length wear limit:
3.5 mm (0.14 in)



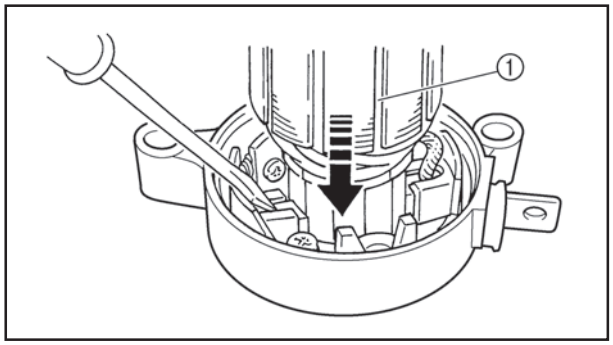
6. Measure:
   - Brush spring force
     Fatigue/out of specification → Replace as a set.

Brush spring force:
5.52 ~ 8.28 N
(560 ~ 840 g, 19.8 ~ 29.7 oz)



ASSEMBLY

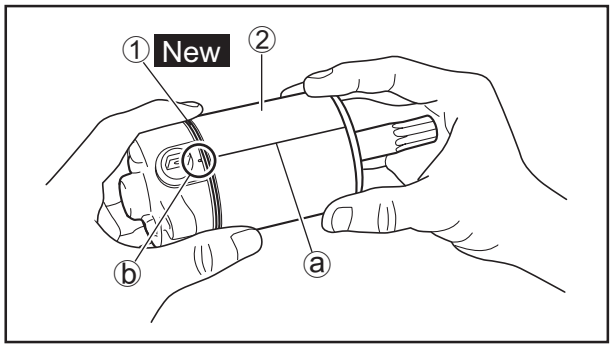
1. Install:
   - Brush spring ①
   - Brush ②



2. Instal:
   - Armature assembly ①
     Install while holding down the brush using a thin screw driver.

NOTICE

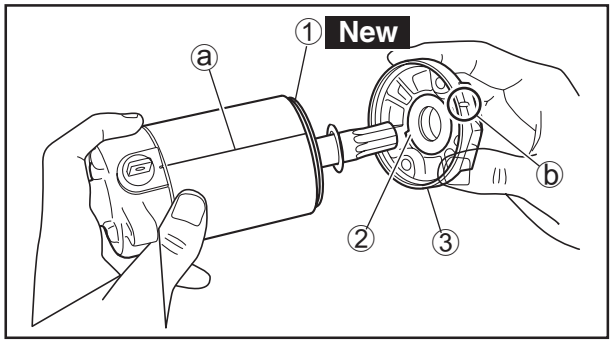
Be careful not to damage the brush during installation.



3. Install:
   - O-ring ① **New**
   - Starter motor yoke ②

TIP

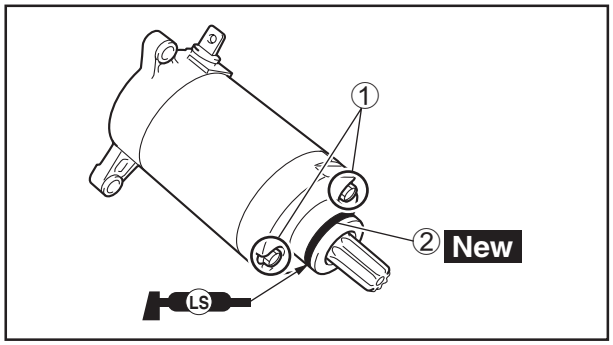
Align the match mark ⓐ on the starter motor yoke with the match mark ⓑ on the starter motor rear cover.



4. Install:
   - O-ring ① **New**
   - Plain washer ②
   - Starter motor front cover ③

TIP

- For installation, align the projections on the washer with the slots in the front cover.
- Align the match mark ⓐ on the starter motor yoke with the match mark ⓑ on the starter motor front cover.



5. Install:
   - Bolt ①
   - O-ring ② **New**

TIP

Apply the lithium soap base grease on the O-ring.

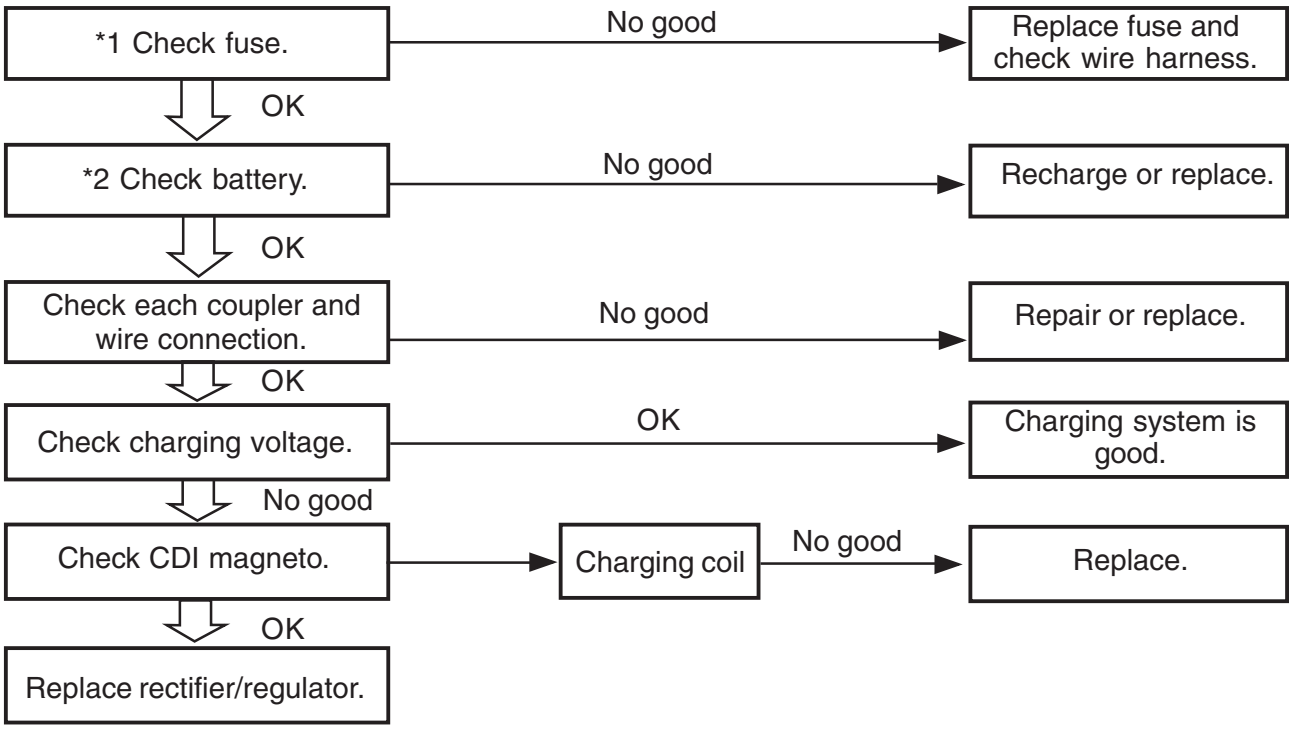
EC680000

CHARGING SYSTEM

EC681001

INSPECTION STEPS

If the battery is not charged, use the following inspection steps.



***1 marked: Refer to "FUSE INSPECTION" section in the CHAPTER 3.**
***2 marked: Refer to "BATTERY INSPECTION AND CHARGING" section in the CHAPTER 3.**

TIP

- Remove the following parts before inspection.
  1) Seat
  2) Rear fender
  3) Fuel tank
- Use the following special tool in this inspection:

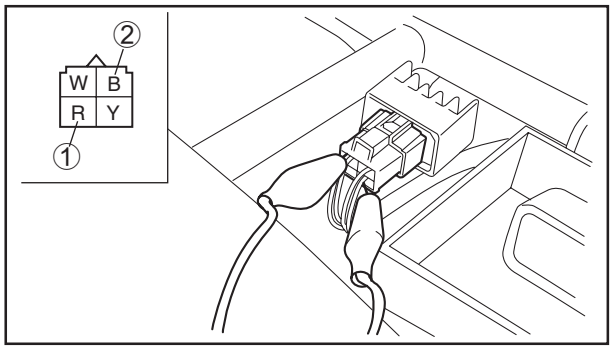
Pocket tester: **YU-3112-C/90890-03112**	**Inductive tachometer:** **YU-8036-B** **Engine tachometer:** **90890-03113**

EC624000

COUPLERS AND LEADS CONNECTION

INSPECTION

1. Check:
   - Couplers and leads connection
     Rust/dust/looseness/short-circuit → Repair or replace.

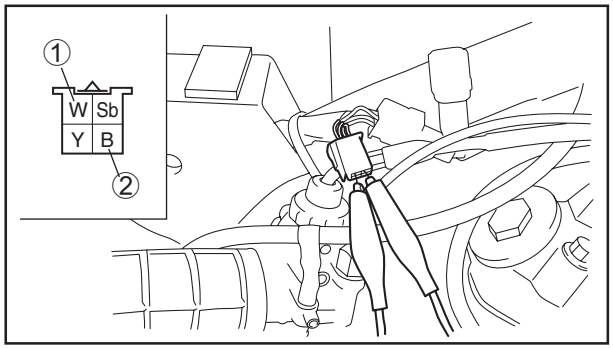


CHARGING VOLTAGE INSPECTION

1. Start the engine.
2. Inspect:
   - Charging voltage
     Out of specification → If no failure is found in checking the source coil resistance, replace the rectifier/regulator.

Tester (+) lead → Red lead ① **Tester (–) lead → Black lead ②**

	Charging voltage	Tester selector position
	14.0 ~ 15.0 V at 5,000 r/min	**DCV-20**



3. Inspect:
   - Charging coil resistance
     Out of specification → Replace.

Tester (+) lead → White lead ① **Tester (–) lead → Black lead ②**

	Charging coil resistance	Tester selector position
	0.64 ~ 0.96 Ω at 20 °C (68 °F)	**Ω x 1**

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